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Original Lectures.

**ON DR. BROWN-SÉQUARD AND HIS RECENT
LECTURES.**

A LECTURE DELIVERED BEFORE THE CHICAGO MEDICAL SOCIETY, MAY
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(CONCLUDED.)

MR. PRESIDENT AND MEMBERS OF THE SOCIETY:

But one of the most striking classes of pathological proof of the decussation of the motor tract, is found in the now rather well known "secondary degenerations," first described by Tuerck, of Vienna, (*Ueber die second. Erkrankungen einzelner Rueckensmarks-stränge u. ihre Fortsetzungen zu gehirn, Wien. akad. Sitz. Ber. Meth. Cl. Bd. 6 Jahrg. 1851. 1 Haelfte, Seite 288 fg.; Bd. 11. Jahrg. 1853, 2 Haelfte, Seite 93, fg.*) and later by Charcot, Erb, Berger, and many others.

In this case it is rendered pretty certain that disease starting within the limits of what has been called the "motor zone" of the brain, will descend the motor tract until it reaches the level

of the pons and medulla, and then still following, apparently, the continuous motor tract, it *passes over to the opposite side of the cord*, and in that side descends. These cases can be easily explained on the view that the motor tracts decussate, as has been claimed, but not on the hypothesis of Dr. Brown-Séquard. These cases of "secondary degeneration" in reality powerfully support the hypothesis of a decussation of the motor tracts. I cannot go farther this evening into this very extensive subject; but I cannot pass on, without recalling what seems to me to be a fact, that all the evidence worthy of the name, whether anatomical, physiological or pathological, supports this view. But while this is so, I must confess that I have been always favorably inclined to the view of Dr. Brown-Séquard as respects the non-decussation of the motor tracts. I have often asked myself the question, *why* there should be such a condition. Why should not the motor fibers from one side of the brain go to the same side of the body? What benefit can arise from the crossed arrangement which could not be secured in a simpler manner? I have never yet been able to answer these questions for myself. But so long as the evidence shows so plainly that there is a decussation of motor conductors, so long will I admit it as a fact.

2. *Localization of function in the cerebral cortex.*

It was not until the time of Gall that any considerable progress was made in a knowledge of the inner structure of the brain. Whatever may be said of his vagaries in craniscopy and phrenology, he gave a great impulse to cerebral anatomy and physiology. But his crude and ill-digested notions met with a vigorous repulse from many quarters, especially from Flourens and his disciples, who rejected the doctrine of a localization of function in the brain, (more particularly the cortex,) in favor of an opposite form of doctrine, or that of a diffusion of special functions throughout the cortex. This latter doctrine affirms in substance that the nervous cells in the cortex—for the sake of an example—which cause remotely the motion of a muscle, are not located in any particular part of the brain, but are scattered throughout the cortex, widely distant from one another. The cells of the cortex, which are remotely concerned in moving the arm, are not found in one

cluster in one convolution, but they are scattered, some in this, and some in that one. Hence destruction of any one part of the cortex, while it may embarrass, cannot destroy or paralyze the movements of the arm. This is the view of Dr. Brown-Séquard. He utterly opposes the doctrine of a localization of function in the cortex of the brain. In order to show this, I will quote a passage from his lectures in this city.

He says (*Journal and Examiner*, p. 294, March, 1878,) "Contrary to what is now admitted, as regards instances of certain so-called psycho-motor centers, I will try to show that an agglomeration or cluster of cells located in * * * the brain, (the cells employed in moving the arm, for instance, and serving therefore for a center,) I will try to show, that such an agglomeration of cells does not exist anywhere, and that the cells which are employed in moving the arm for instance, are scattered all over the brain, so that destruction may take place in any part of the brain, without any paralysis of the arm; all these cells however, serving to move the one limb, or any other part, etc."

Many more such passages might be cited, and they would all contribute to make it clear that the view referred to of Dr. Brown-Séquard has been correctly described above. The proofs of a localization of function in the cortex of the brain, are of various kinds. I cannot go into these proofs, such as they are in detail, even if it were necessary, for it must be supposed most of those present are in a measure acquainted with them. But I cannot pass on without referring briefly to them.

Then, first of all, the doctrine is not only in harmony with, but rendered imperative, by the general principles of physiology. I do not know that this view can be better stated than it has been by Mr. Spencer in his work on psychology (vol. I. 573-4). I quote as follows:

"Whoever," says he, "calmly considers the question, cannot long resist the conviction that different parts of the cerebrum must, *in some way or other*, subserve different laws of mental action. Localization of function is the *law of all organization whatever*, and it would be marvelous were there here an exception. If it be admitted that the cerebral hemispheres are the seats of the higher psychical activities, if it be admitted that among these higher psychical activities there are distinctions of kind, which, though not definite, are yet practically recognizable, it cannot be denied, without going in

direct opposition to established physiological principles, that these more or less distinct kinds of psychical activity must be carried on in more or less distinct parts of the cerebral hemispheres. To question this is to ignore the truths of neuro-physiology, as well as those of physiology in general. It is proved experimentally, that every bundle of nerve-fibers and every ganglion has a special duty, and that each part of every such bundle, and every such ganglion, has a duty still more special. Can it be, then, that in the great hemispherical ganglia alone this specialization of duty does not hold? That there are no conspicuous divisions here is true, but it is also true in other cases, where there are undeniable differences of function—instance, the spinal cord, or one of the great nerve-bundles.

"Just as there are aggregated together in a sciatic nerve an immense number of fibers, each of which has a particular office, referring to some one part of the leg, but all of which have for their joint duty the management of the leg as a whole; so, in any one region of the cerebrum, each fiber may be concluded to have some particular office, which, in common with the particular offices of many neighboring fibers, is merged in some general office fulfilled in that region of the cerebrum.

"Any other hypothesis seems to me, on the face of it, untenable. Either there is some arrangement, some organization, in the cerebrum, or there is none. If there is no organization, the cerebrum is a chaotic mass of fibers, incapable of performing any orderly action. If there is some organization, it must consist in that same 'physiological division of labor,' in which all organization consists; and there is no division of labor, physiological or other, but what involves the concentration of special kinds of activity in special places."

It may be objected by some, in behalf of Dr. Brown-Séquard's doctrine, that the remarks of Mr. Spencer are not really aimed against it. But I am unable to see how the views of the former can be reconciled to the general, and with the exception of the cerebral cortex—if it is an exception—the all but universal principles of physiology. The sensory and motor nerves are distinct. Each nerve, as a rule, whether motor or sensory, has its special peripheral area of distribution, and its special central nucleus and region of termination. Each step in the progress of knowledge of the spinal cord and medulla only serves to render more clear the fact, that special tracts of gray matter of the same are charged with special functions. The same general view begins to be something more than a surmise as regards the basal system of ganglia, upon which the peripheral nervous system converges.

Up to this point, localization of function cannot be denied with any show of reason. But above this point it is denied by Dr. Brown-Séquard. It is assumed as highly probable by those who

hold to the localization of function in the cerebrel cortex, that the fibers which arise from the cells of the masses which compose the "basal system," as they pass upward in the *corona radiata* of Reil, connect particular areas of the gray matter of the basal system with particular regions of the cortex, in the same manner as in the peripheral nervous system, the fibers of which connect particular parts of the gray matter of the cord or medulla with the same muscles, etc., as a rule. An impression produced at a particular part of the periphery is conveyed in different individuals (save in anomalous cases) essentially to the same part of the gray matter in the cord. It passes up then by preference, in a certain part of the cord, medulla, crus, etc., into or through a distinct part of the basal system, and from thence along a distinct fiber or bundle of fibers to a definite part of the cortex, even in different animals, as a rule. This view seems absolutely necessary to regularity of action of the nervous system.

But Dr. Brown-Séquard thinks, apparently, that the muscles which move the right hand—or say the index finger—if excited from the cortex are not excited from any special part of it, but from *any* part. There are no *centers* in the cortex, as in all other parts of the nervous system. One cell, for example, which subserves this purpose (if any such cells exist) is to be found in every convolution of the brain. This makes it necessary that one or other or all of certain kinds of nervous mechanisms should exist in the brain. These cells must be either all connected together, or they must be distinct *inter se*. According to Dr. Brown-Séquard most probably the latter is true. This admitted, one of two other suppositions must be true. Either the fibers from each of these widely separated cells must make their way independently to the same part of the basal system, or to different parts of the same, most likely the latter, according to our author. So that instead of one part, many parts of the basal system would be simultaneously excited, in order to finally move the muscles of the right index finger. But if only *one* cortical cell is excited, instead of many, which one out of the hundreds of cells probably devoted to this purpose shall habitually act? What an infinite complexity of fibers does not this doctrine of Brown-Séquard's render necessary? But if motor cells for the muscles of the index finger are

"scattered broadcast" all through the cerebral cortex, the same must be true for excitor or sensory impressions. Though they may start from some definite peripheral area of the body, as the retina, and be conveyed to a certain part of the basal system—let us suppose—yet if the doctrine of Dr. Brown-Séquard were true, the visual impressions, if they are sent to the cortex, may go to any or all of its parts, for the cells for the final appreciation of visual impressions are disseminated in all parts of the cortex. It would be necessary for the fibers of the optic tract (nerve) after being traced back to a basal nucleus to which they lead, to give off a vast complex of fibers to the cortex, each one of which, if all the others were destroyed, might serve the purposes of visual perception. But what anatomical proof have we of such a state of things as Dr. Brown-Séquard supposes? None whatever. It is simply made possible by our anatomical ignorance.

I have no hesitation in saying, that the anatomical evidence, so far as it is clear, is in favor of a localization of function in the cortex. I am ready to submit the details whenever a suitable opportunity offers, but cannot do so this evening.

The physiological evidence is mainly composed of the results of the researches of Fritsch and Hitzig and Ferrier and many others, now so generally known. They all tend to show the existence of limited cortical areas which for the same animals have peculiar functions. Thus far the results of experiment have been in many respects unsatisfactory, but out of the whole, the general doctrine of a localization of functions in the cortex has clearly emerged. But the conditions of success are numerous and delicate, and are with difficulty complied with. One of the first steps taken, has been the localization of an area lying about the fissure of Rolando, as the so-called "motor zone." From within the rather ill-defined limits of this area, it has been found possible to provoke contractions of various muscular groups by electrical excitation of the cortex—or of the fibres within or immediately beneath it. Particular spots within this area have been fixed on, from which the contractions of special groups of muscles can be excited *on the opposite side* of the body. These definite spots have been called "psycho-motor" centers. They have been imagined, on pretty good grounds, as containing a group of

motor cells worthy of being called a nervous center, and from which the *will* acts, in the exercise of *volition*, to excite a definite *purposive* contraction. There must be some part of the brain from which such actions may be excited. The experiments touching this subject, conducted on the higher animals—especially monkeys—have now become so numerous and critical as to leave one in a state of surprise, when they consider the utterances of Dr. Brown-Séquard and a few others, chiefly his pupils, such as my friend Dr. Dupuy. For some of the details I must refer you more particularly to the work of Dr. Ferrier, republished in this country—a work all should carefully read, who seek information on this subject. Particular spots have been designated by Dr. Ferrier and others, within the “motor zone,” excitation of which provoke with singular regularity contractions of special muscular groups on the opposite side of the body. Destruction of the same spots have with almost equal uniformity led to paralysis or pareses of the same muscles. To enumerate and critically discuss this phase of our subject adequately, would require a course of lectures. But in the presence of existing information, I am willing to make the prediction that before five years shall pass, no doubt will exist in the mind of any well-informed and unprejudiced physician as to the truth of the doctrine, against which Dr. Brown-Séquard has raised his voice, in his course of lectures in this city, and in other lectures and writing delivered elsewhere.

I have now to mention that quite recently, Drs. Bevan Lewis, and Henry Clarke of London, have begun to supply the minute anatomical evidence of the correctness of the doctrine of a localization of function in the cerebral cortex. In a paper (January last) in the *Proc. Roy. Soc.*, London (and in another highly interesting paper in “*Brain*,” a recent periodical, published from London,) they have described the “giant or motor cells” of the cortex, of Betz, found within the “motor zone.” They find them chiefly confined to this zone, but gathered into *constellations or centers*, especially at the exact spots located by Ferrier as the seat of motor centers. Their anatomical discoveries, taken in connection with those of Ferrier, Hitzig and others, are certainly remarkable. I cannot discuss, this evening, either the

facts which seem to support, or the difficulties (for there are difficulties) of this doctrine. But I cannot see how, in view of the anatomical and physiological evidence at present in existence on this subject, any one can reasonably assume the position of Dr. Brown-Séquard.

As to the pathological evidence it is becoming abundant and is rapidly on the increase. Cases of limited lesions of sense and motility in man, in which examinations post mortem, have revealed demonstrable material lesion of the cortical centers, presumably governing such functions or parts are now very numerous and many of them critical on account of the application to them of the best methods known and by thoroughly competent hands. The best collection of such cases is in a recent number of the *Rivista Speriment. di Freniatria, etc., anno iv, Fascicolo 1., p. 1, 1878. (Le Localizzazioni Motrici della Cortecci Cerebrale studiate speciale dal lato Clinico, dal dott. Maragliano)*. Ninety-seven cases are collected from various sources and analyzed in this paper, and I must say when they are compared with the heterogeneous and uncritical collection of cases of Dr. Brown-Séquard, of lesion of the brain, either with absence of symptoms, or with different symptoms, that the disparity is enormous, as to scientific value, the preponderance being wholly on the side of the cases which support the doctrine of a localization of function in the cortex.

This subject has been discussed in a multitude of papers from the best hands, especially within the past year or so, and the result of the whole is, so it seems to me, to place the general doctrine on a permanent basis. But there are yet special difficulties, many of which have been industriously used (and I had almost said misused) by Dr. Brown-Séquard in his recent lectures in this city. But I have no doubt they will be removed in due time.

Dr. Brown-Séquard relies on certain experiments on the lower animals, but especially on pathological cases, to support his doctrine of non-localization of function in the cortex. But I have no hesitation in declaring that, as compared with the evidence on the other side, whether physiological or pathological, it is worthless.

Quite recently Dr. Ferrier has discussed this subject afresh in

a course of lectures, now being published in the *British Medical Journal*. In these lectures he has undertaken to answer many of the objections of Dr. Brown-Séquard, and in a manner which must be satisfactory to nearly all, except the latter.

I would be glad, if I had time, to discuss Dr. Brown-Séquard's use (abuse as I was about to say) of the principle of *inhibition* and its contrary, in explaining paralysis and convulsions from brain disease. No one disputes intelligently that we may and do have *inhibitory paralysis*. Dr. Brown-Séquard cannot be permitted to monopolize this principle (of inhibition), which he was not the first to notice and apply. No one objects to this principle, or to admitting it as a factor in paralyzes, especially from brain disease. But Dr. Brown-Séquard contends in its favor, as if he had a host of opposers, or as if he alone among physiologists admitted it. Among the real objections to his mode of using this principle in explaining paralyzes from disease of the brain, is this: His gratuitous use of the principle of inhibition to explain how it comes to pass that disease in one side of the brain produces paralysis in the opposite side of the body, in such way as to preserve his assumption in regard to the non-decussation of the motor conductors. He sacrifices a multitude of apparent facts, at the point of a bare and unprovable assumption. In doing so, Dr. Brown-Séquard has apparently been bereft of all his former candor and caution in reasoning. His "cases" are *not* critical; they do not satisfy the reasonable demands of scientific proof. But I can do little more than challenge the positions taken by the lecturer. It may be that I can hereafter refer to this subject in papers before the society, if opportunity should offer. But it is now being so amply discussed by various competent persons that the time cannot be distant when all reasonable doubts will be removed, and the doctrine of a localization of function in the cortex become a recognized principle in nervous physiology.

Original Communications.

RAPID DILATATION OF THE FEMALE URETHRA IN THE DIAGNOSIS AND TREATMENT OF CHRONIC CYSTITIS.

BY WM. H. BYFORD, M. D.

M. C., a German by birth, was 26 years old when I first saw her. She was the mother of two children, the first two years old, the second five months. She was short, stout and, up to the time of her first confinement, had enjoyed uninterrupted health. The confinement, however, was severe and somewhat protracted. She was attended by a midwife, and all that I have been able to ascertain of her history, pertinent to the present report, is that she suffered for several months during lactation from irritability of the bladder. Apparently, however, she had entirely recovered from this before her last pregnancy.

During the last two months of her second gestation she suffered from dysuria, which, as labor approached, was attended with marked symptoms of inflammation of the bladder, such as inability to retain the urine more than half an hour or an hour at a time, a burning pain and tenderness in the pubic region, with a sense of weight and tenesmus.

At the time I first saw her, just five months after the second child was born, she was standing with her head and upper part of the body bent forward and her feet widely separated, a position she maintained as much as possible, on account of the pain she experienced while sitting or lying. Every ten or fifteen minutes she was seized with great vesical tenesmus, which was attended with the forcible expulsion of a small quantity of urine. This

evacuation of the bladder, although the urine was so small in quantity, would bring some relief for another ten or fifteen minutes, at which time occurred a similar paroxysm of pain and urinary discharge. In this way she passed the time until she became so exhausted with fatigue, suffering and wakefulness that she would be obliged to assume the recumbent position, and doze between her painful paroxysms. When she thus attempted to sleep she would lie but a few moments, as the pressure of a small amount of urine would arouse her—to secure its expulsion—by an uncontrollable tenesmus.

Several months of such agony imprinted upon her face marks of great suffering, and induced a general failure of mental and physical power. Her pulse was small, and about a hundred to the minute; skin cool and damp; tongue coated and appetite poor. The urine was retained so short a time, and expelled in such small quantities, that I could not procure any for examination. The external genitals were excoriated and covered with mucus, and large urinary deposits covered the labia and perineum. The labia were tumid and their inner surfaces so raw that they frequently bled. The parts were so tender that I found it impossible to make any examination without subjecting her to the influence of an anæsthetic.

When she was completely under the influence of ether, a large steel sound was introduced into the bladder and swept around in every direction without encountering anything solid therein. The forefinger of the right hand was then introduced through the urethra into the bladder, which was found to be so contracted that every part of its cavity could be easily explored. The walls were very thick and rigid, and the mucous membrane studded with pendulous granulations or projections, easily perceived by the touch. These were forcibly detached by the finger until, as far as possible, all were thus disposed of. Two or three ounces of blood were lost during this operation. The distension of the urethra was accomplished without rupturing any of the muscular fibers surrounding it. For fear of a too rapid contraction of the sphincters, the middle finger was introduced to still further dilate the urethra. I entertained no fear that this great distension of the urethra would result in the patient's inability to retain her

urine. Indeed, I apprehended that it might be necessary before the cure was completed to repeat the dilatation.

After the operation was finished, Nov 15th, 2 p.m., the patient promptly and thoroughly recovered from the effects of the ether, and at 3 p.m. was comparatively comfortable. One drachm of acetate of potash every two hours was prescribed. An injection into the bladder was ordered of a quart of water at 112° Fahrenheit twice daily; and a tepid sitz bath for half an hour twice a day also. Nov. 16th; The injection last night caused slight pain, which very soon passed off, and was followed by a sense of comfort. The urine flowed freely through the dilated urethra, and the patient slept quite well a good portion of the night.

Nov. 17; The patient rested well, no pain, had free secretion and discharge of urine. Treatment to be continued. Nov. 18; Still improving, and expresses herself as greatly relieved from the suffering she experienced before the operation. Nov. 20; Patient still improving in every respect. The excoriations of the external genitals are disappearing; she now retains her urine two hours, and passes it without discomfort. Nov. 24; The treatment has not been changed and the patient continues to improve. She retains her urine for five or six hours without inconvenience. The catheter now passes three inches into the bladder, and the injection is a source of great comfort. The urine is clear and but little mucus settles at the bottom of the vessel. The potash is omitted to-day, and the patient directed to take one teaspoonful of the syrup of the tincture of iron after meals, three times a day. This syrup contains fifteen minims of the tincture to the teaspoonful. The sitz baths and injections are to be continued.

This treatment was pursued until Dec. 6th, when the patient left the hospital at her own request, believing that the treatment was no longer necessary.

Two years ago there was, in the Mercy Hospital, a case of severe chronic cystitis in a little girl ten years of age, in which it was necessary to dilate the urethra with the little finger four times. So far from this practice having been attended with any bad results, the little patient was discharged at the end of four months entirely cured, her ability to retain her urine being perfect. Up to this time the disease has not returned.

Three years ago, I saw an interesting trial of this operation in a very unfavorable case, in consultation with Prof. D. T. Nelson. The patient was an Irish woman, totally broken down in health from a complication of difficulties connected with chronic and very distressing cystitis. She was the mother of several children, had had difficult labors, and very poor attention; and had been subject to symptoms referable to uterine and vesical disease for several years. She was, at the time when I saw her first, afflicted with fibrinous deposit in the omentum, which strongly resembled a tumor, the result of a somewhat acute attack of general peritonitis some months before. The spleen was enlarged, and from the great functional disturbance of the heart it was not altogether certain that that organ might not be affected with organic disease. She was greatly reduced in strength, and anasarctous to a moderate degree. She was constipated, had a poor appetite, and altogether justified the assertion I have just made, that she was totally broken down in health. The most distressing of her symptoms, however, she referred to her bladder. The dysuria was so severe and continuous, that she had no rest except under the influence of opiates. Large scales of phosphatic deposits, with pus, mucus and sometimes blood, were passed from the bladder with the urine in most agonizing paroxysms. In addition to the judicious treatment which was being pursued by Dr. N., I advised him to pass his finger into the bladder as often as necessary to keep the urethra sufficiently patent to permit of a free discharge of the contents of the bladder, and if necessary wash the organ out with warm water.

As soon as the dilatation was performed the patient began to improve, and the improvement steadily progressed. She is now in the enjoyment of a very fair condition of health. The disease of the bladder, however, was so serious as to require repeated dilatation for about a year from its commencement. The patient soon comprehended and appreciated the great relief afforded by introducing the finger through the urethra, and for a long time before she entirely recovered, when the irritation became very annoying, she would perform the operation herself.

The patient should be prepared for the operation of dilatation of the urethra, by thoroughly emptying the alimentary canal, by

a liberal use of the warm bath; scrupulous cleanliness of the external genitals, and large injections of warm water into the bladder, by means of a double catheter twice a day for at least forty-eight hours.

We should always be careful before resorting to forcible dilatation of the urethra, to examine circumspectly the pelvic cavity and lower portion of the abdomen, in order to assure ourselves that there are none of the inflammations present which so often complicate vesical inflammation in the female pelvis, such as chronic or acute cellulitis, local peritonitis or a considerable amount of metritis.

Any of these complications would render the operation hazardous and would contra-indicate it.

I have been made acquainted with one instance, in which dilatation was performed, where peritonitis supervened in less than twenty-four hours, and, by becoming general, led to a fatal result. When none of these local complications are present, we may generally expect a favorable result. After dilatation, care must always be taken to exclude any of the ordinary causes of excessive reaction. This may be done by keeping the patient strictly quiet for three or four days, surrounding her with the best hygienic conditions, and relieving pain, should any occur, by administering full doses of opium. The bowels ought to be kept from moving for three or four days. At the end of this time gentle evacuations may be secured by repeated small doses of sulphate or citrate of magnesia. The diet for two or three days should be easy of digestion and nourishing.

The operation is very simple and easily accomplished, usually requiring not more than ten minutes for its performance. The one thing to be avoided is too much violence. Generally it is best to begin by pressing the end of the little finger against the meatus with gentleness, firmness and steadiness. In a short time, the muscular fibres are felt beginning to relax, and very soon they will permit the introduction of the finger. Having held the little finger in this position for a few minutes, it should be withdrawn, and the index finger introduced with the same precaution, giving the muscular fibres time to relax and permit the finger to enter, instead of urging it forward so rapidly as to rupture them.

TWO CASES OF SYPHILIS, IN WHICH THE INFECTION TOOK PLACE IN RATHER UNUSUAL SITUATIONS.

BY GEORGE H. ROHÉ, M. D.

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In the current (July) number of the *Archives of Dermatology*, I have reported a case where syphilis had been communicated by a bite on the nose, inflicted during a fight. Since reporting that case, two others have come under my observation, which appear to me of sufficient interest to warrant publication.

Case I. *Chancre of the Tongue*. C. K., white, American, widow, 27 years of age, and by occupation factory operative, consulted me on the 24th of May, 1878, with the following history :

About the middle of last February she noticed a whitish pimple on the surface of the tongue, near its tip, which was slightly painful. This pimple became larger, hard at the base, and eventually resulted in an ulcer. Up to this time the only application she had used was a mouth-wash of borax, which seemed however to do no good. She then consulted a physician, who cauterized the lingual ulcer several times, and gave her some pills which produced salivation. The tongue became greatly swollen and painful, causing considerable trouble in eating and speaking. Shortly afterward, her throat became very sore, and she was sick and feverish, being compelled to take to her bed for a few days in consequence. About three weeks ago, while dressing, she discovered a brownish rash upon her body, and consulted me with regard to it, on the date mentioned above. Her husband died over a year ago, of some phthisical affection. He never had any cutaneous eruption, to her knowledge. Two children died soon after birth, of "brain trouble;" both had sore eyes and "a wheezing" in the throat, but no skin disease. One child, the eldest, eight years old, is living, who is deficient in mental capacity, but otherwise appears healthy.

Present condition.—Her face, arms and body are thickly covered with reddish, or brownish-yellow, flat papules, the summits of which are slightly scaly. Upon the face, the papules are localized especially about the angles formed by the alæ of the nose with the cheeks, and the angles of the mouth. The submaxillary glands are much enlarged and tender; the post-cervical only slightly so. On examining the mouth, an oblong, slightly excavated patch, with a deep-brown glossy base, is seen near the tip of the tongue, occupying the middle line of the organ. The base is firmly infiltrated, the induration being rather limited in extent. The throat is still red, but not painful. The inguinal glands are very slightly enlarged, but not indurated or tender. An examination of the genitals reveals no lesion or induration of the vulva or vaginal mucous membrane. The anterior segment of the os uteri is perfectly normal to the touch, while the posterior segment is firm and hard, conveying to the finger the sensation of the induration of a cancerous infiltration, or a firm cicatrix, more nearly than anything else I can compare it to. The os is normal in size, and neither painful nor tender to the touch. She does not remember having any sore or other trouble about her genital organs recently; and absolutely denies any sexual intercourse since the death of her husband, which, as stated above, occurred over a year ago.

None of the other operatives, in the factory where she works, had any sore mouth or skin affection, to her knowledge, but a young man who visited frequently at her brother's house, and whom she occasionally met there, had a copious eruption on his face. She remembered that on one occasion they had some sort of game, consisting in writing little notes to one another and passing them around the room. The young man referred to was present and took part in the game. A pencil belonging to him was used and passed around, but she has no recollection of putting the pencil in her mouth. It was some time after this that the pimple appeared on her tongue. The eruption on the skin was characteristic and sufficient to justify the diagnosis of syphilis, and the regular consecutive appearance of the other symptoms following the affection on the tongue, led me to believe the latter to be the primary lesion, which belief was strengthened by

the negative result of the examination of the genitals. The induration of the posterior segment of the os uteri I believe to be either cicatricial or cancerous. She was put upon inunction with mercurial ointment, after Sigmund's plan, and directed to take fifteen drops of tincture of chloride of iron three times a day. Under this treatment the eruption rapidly faded, and has at the time of writing nearly disappeared.

Case II. J. S., American, male, 24, shoemaker; came to my clinic, at the College of Physicians and Surgeons, on May 30, 1878, with the following history: About six weeks ago a sore came upon his upper lip, which became much swollen; about a month later his throat became very sore, and about a week ago he noticed an eruption upon his body. His present condition is as follows: The face, body and extremities are covered by a copious erythematous syphiloderm. The upper part of the chest, face and back of neck are also thinly studded with papules. On the upper lip, a little to the left of the middle line, is a swelling about the size of a pigeon's egg, with the mucous membrane everted and excoriated; the submucous tissue is the seat of a thin, firm infiltration distinctly circumscribed. The submaxillary glands are very much enlarged and tender; post-cervical glands also enlarged; inguinal glands very slightly enlarged, not tender to the touch. The mucous layer of the prepuce and the glands is the seat of five or six small, lenticular excoriations, without induration, which look like papules of the mucous membrane deprived of their epithelial covering. These spots had existed only four or five days. He has not had sexual intercourse for over four months. Denies having ever had any affection of the genital organs, either ulcerative or blennorrhœal. He remembers kissing a girl having a sore lip, about two months ago.

The evolution of the disease in its various stages in this case, is entirely consistent with the assumption that the sore on the lip was the initial lesion, and that this was the result of inoculation during the suspicious kiss. It is to be regretted that there could not be confrontation in this case to decide the question.

He was ordered mercurial inunction, and calomel to be dusted on the lip. As he did not return to the clinic, the result of treatment could not be followed up.

CASE OF LARGE POLYPUS OF THE UTERUS.

BY D. I. McMILLAN, M. D., SUNBEAM, ILL.

I was called, Feb. 20, 1878, to see Mrs. W., who was reported as suffering from labor pains, with something also protruding from the vulva. She was a farmer's wife, 45 years of age, and the mother of six children, the youngest aged 10, some of the oldest married.

I found another physician in attendance, who had, on the day previous, prescribed for what he supposed to be menstrual disorder. At that time she was losing a good deal of blood, and was suffering pain. He supposed that he felt above the pubis an enlarged uterus, which resembled in size and consistence the uterus after labor. Simple remedies were given, and the case dismissed. On this morning he was called in great haste to see her again. She had been suffering most of the night with severe labor pains accompanied by flooding, but as he lived at a distance of five miles he did not see her until two o'clock in the afternoon. He then found a foreign body outside of the vulva, and not satisfied as to its nature nor as to the proper treatment, he requested the counsel of another physician, and I was then sent for. It was eight o'clock when I reached the patient, and found her in the following condition: She had the pallor of death, and seemed completely exsanguine, with an anxious expression of countenance; the pulse was thread-like and very rapid, probably 140 or 150 to the minute; her extremities were cold and her body bathed in a cold sweat; the tongue had the same bloodless appearance; the respirations were hurried and the eyes protruding, as in suffering from dyspnoea.

On examination, I found an ovoid tumor, nearly as large as a foetal head, outside the vulva and lying on the bed between the thighs. I say ovoid, but perhaps the best descriptive term would be pear shaped, the upper or stem end of the pear representing the peduncular attachment which passed upward through the vulva. This pedicle was nearly as large as the wrist, or between two and

three inches in diameter, and could be traced upward through the os. On account of the large size of this pedicle, which nearly filled the vagina, it could only be traced as far as the finger could reach. The color of the mass was dark red, the pedicle lighter and covered, as it was supposed, with coagulated blood. There was, however, no oozing of blood from any part. In consequence of the external appearance, shape and consistence of the mass, considered in connection with the fact that the womb could not be felt, and that the patient complained of pain when the tumor was handled, we supposed there was partial inversion of the uterus. The darkened appearance we supposed to be caused by venous engorgement from obstruction to the flow of blood through the constricted neck of the womb. The size of the mass was supposed to be owing to the length of time that had elapsed since its extrusion. This took place in the morning, some sixteen hours before, and if there had been any vascular obstruction, the longer this existed the greater would have been the consequent distension and tumefaction.

As we were not satisfied regarding the diagnosis and proper plan of treatment, further advice was requested, and Dr. Frazier, of Viola, was summoned. During the absence of the messenger (a period of several hours, owing to the distance), free stimulation was employed, in order if possible to secure reaction. No measures of this sort had been taken, and the patient was bordering on collapse. To this end alcoholic stimulants were freely used internally and bottles of hot water applied externally. The condition of the patient was not, however, greatly improved by this course. There was the same thready pulse, hurried respiration and coolness of body and extremities.

On Dr. Frazier's arrival he made an examination, and pronounced the mass that we had taken for an inverted uterus, a bloody tumor, with the uterus perhaps partially inverted and enclosed in the blood coagula. He proposed the immediate separation of the uterus and removal of the fungous body. The vitality of the mass was tested by running the finger through the larger portion in different places; no hæmorrhage followed. He then proceeded to remove the larger portion by twisting it from the pedicle. Considerable force had to be used to detach it. After this was

accomplished, the pedicle was attacked. The tissue composing this was very much more dense than that composing the body, and was removed with no little difficulty. Strong traction was made, and the pedicle and fundus of the womb were drawn outside of the vulva. In fact, the tissues composing the pedicle were so nearly like ordinary muscular fiber, that it took considerable discrimination to tell where it ended and uterine fiber commenced. It was detached piecemeal, the finger being used to slit it up and the shreds being peeled off one by one. So firm was the attachment to the fundus that its detachment seemed to require as much force as the removal of muscular tissue from periosteum or bone.

The mass removed, the uterus was easily replaced by a uterine repositor that I happened to have. This could however have been as easily accomplished with a blunt pointed stick. The uterus was perfectly flaccid; no more resistance was experienced than in replacing a prolapsed rectum. No hæmorrhage followed, not even slight oozing of blood. On the site of attachment, where the pedicle was removed, the uterine tissue was blanched, having the same bloodless appearance as the external aspect of the body. This showed how completely the blood had been drained away, since a large vascular tumor had been torn away piecemeal from the uterine surface without hæmorrhage.

The removal of the tumor and replacement of the organ to its normal position gave no relief. The patient was very much exhausted after the operation. A great deal of pain was manifested, especially during the removal of that portion of the pedicle attached to the fundus. The operation over, free stimulation was resumed. Besides external heat and alcoholic stimulants internally, a solution of sulphate of cinchonidia in brandy (quinine not being at hand) was used hypodermically; all, however, without effect. The pulse never grew stronger, but perceptibly weaker, and the patient gradually sank, and died six or eight hours after the operation.

Transfusion of blood was of course greatly needed in her case, but no apparatus of such kind was attainable, not even a syringe. That she died from loss of blood was manifest. Shock, of course, had its effect, but it is my opinion that if a few ounces of blood

could have been thrown into her veins immediately after the removal of the tumor, she might be living to-day.

The tumor was, almost certainly, a polypoid growth. Dr. Frazier also, after examining the tumor, and learning the patient's history, concluded that the tumor was a polypus. Her previous history I afterward learned from a lady living in the vicinity. She had been complaining for three or four years of great trouble at the menstrual periods, which were normal as to time, but always excessive and offensive. She was always prostrated and in bed from one to two weeks after each epoch; in fact, so regular was this that she always made preparation for this event by providing for extra changes of linen. Pain was also a prominent symptom during the menstrual flow. She had had an anæmic look for several years. This would indicate that the commencement of the tumor dated back several years, or from the commencement of her uterine trouble.

The composition of the tumor would also indicate its nature. The examination of its structure was made only by the naked eye, and of course could only be superficial. Its entire length, pedicle included was perhaps eight inches. Its weight was probably two, or at most three, pounds. The large portion of the mass was of low vitality. In the language of Dr. Frazier, who examined it the next morning, "It was composed of loose fibrous bands, the interstices filled with clotted blood; over the upper and larger portion was found a membrane more or less tough and resisting." The pedicle was much more dense, as may be readily inferred from the extraordinary difficulty attending its removal. The previous history of the patient, and the character of the growth, both point, therefore, unmistakably to polypus as the real source of the difficulty.

If the character of this tumor had been recognized in the morning, its prompt removal and the replacement of the partially inverted uterus would have been indicated. This, of course, was required fully as much when I saw the patient. I must admit, however, that the resuscitation of the patient seemed most imperative. Although there was no hæmorrhage, and had not been, as far as I could learn, after the expulsion of the polypus, it was nevertheless quite plain that the woman was dying from loss of

blood and shock. The dragging down of the womb by the tumor had of course to be relieved, as this was increasing the prostration of the patient, although hæmorrhage had ceased hours before.

It is a question in my mind whether the womb should have been pulled down and the pedicle torn from its uterine attachment, as this produced pain and increased the prostration. Had the patient lived she might also have suffered from hæmorrhage at the seat of the implantation of the pedicle. The better plan would have been (it seems to me), to have ligated the pedicle, cut the tumor off, and then returned the womb to its normal position. As has been stated, it was not easy to discriminate between pedicle and uterus, so much did they resemble each other in consistency and appearance, great care being required to avoid tearing away a portion of the womb.

CAUSES OF THE LOW RATE OF MORTALITY AMONG THE FOREIGN RESIDENTS AT THE SANDWICH ISLANDS.

BY HENRY M. LYMAN, M. D.,

(Professor of Physiology and of Nervous Diseases, Rush Medical College, Chicago.)

The remarkable paper by Judge Caton in the June number of the JOURNAL AND EXAMINER regarding the low rate of mortality which obtains among the foreign inhabitants of the Sandwich Islands, while the native inhabitants are rapidly diminishing in number under the influence of epidemic diseases and the untoward circumstances of a sudden change from the savage state to comparative civilization, affords interesting evidence in corroboration of the doctrines enunciated by Herbert Spencer in his "Principles of Biology." Spencer shows that the natural tendency of things is in the direction of an equilibrium of forces. Every organized body is the result of an equilibrium between internal forces and external forces. Every living body is the result of the establishment and preservation of an equilibrium between its internal vital forces and the external, incident forces of nature which tend to disintegrate every existing form. Now,

when the incident forces, whether physical, spiritual, or both—it makes no difference which—are numerous and complicated, a corresponding multiplicity and complexity of the internal vital adjustments will be necessary, in order to effect the preservation of a living equilibrium. The result will be a highly organized and enduring structure. This is precisely the result which experience discovers. In the temperate zones of the earth the number and complexity of the conditions of existence is the greatest. It is here that the greatest changes and varieties of temperature and climate are experienced. It is here that, consequently, the greatest variety of occupation and mode of life is possible, so that it is in precisely this portion of the earth that we find that complexity and perfection of physical structure, *growing out of* perfect equilibrium of forces, which gives special toughness and power of endurance to that portion of the human species which inhabits the favored zone.

There is, however, another consequence of the natural tendencies towards equilibrium which is not so conspicuous, and is therefore often overlooked by medical writers. When the incident forces have operated with great uniformity for a succession of generations upon a given race of beings, there becomes established such a perfection of equilibrium between vital forces on the one hand and the antagonistic forces on the other, that a new element of danger is evolved. Exposed to a uniform succession of similar incidences, the living organism becomes exceedingly strong in its power of resisting the impact of that particular group of forces; but, experiencing no need of adjustment against other kinds of incident force, it becomes less and less complex in its structure, and correspondingly less capable of resisting the shock of new and unexpected modes of motion. This lower form of organization is found in those regions where the conditions of life are characterized by great uniformity. It is reduced to its lowest terms of simplicity, and consequent lack of adaptability to various and sudden changes, in those parts of the earth where the temperature, climate and mode of life are the most uniform, and where the species is most isolated. These are the conditions which have made the Pacific islanders what they are; hence their inferior power of resistance when exposed to new influences that are opposed to life.

Such is the Spencerian mode of stating the case. Philosophy aside, we recognize the same facts every day, and much of our practice is based upon a semi-conscious recognition of these facts. Take, for example, a family of young children among the wealthier classes in society. Surround them with every luxury, in a winter-palace, with a constant temperature of 72° F., and they will for a time enjoy excellent health. They are like a tribe of Polynesians shut up on a little island in the middle of the Pacific. But the little things, though they never have measles or scarlet fever, or any other horrid infectious disease, become surprisingly delicate and tender. A little too much dinner makes them yell with colic; a new tooth produces violent convulsions; and a ride in the open air would fairly snuff them out of existence. They have become thoroughly equilibrated with a certain limited number of incident forces; and this perfection of adjustment to those narrow conditions leaves them preternaturally sensitive to every novel influence. They may be likened to a fortification in which all the labor has been concentrated upon the sea-ward side—it is impregnable against a naval attack, but wholly defenceless against an approach from the land.

Now when we desire to “harden” a delicate child, we proceed to expose him to the greatest possible variety of conditions—incident forces, as Spencer calls them. We turn him out of doors every day; we take off some of his extra wraps; we bathe him with cool water; we make him practice all kinds of games; we get him vaccinated; we let him run the risk of infection, and are glad when he has done with the measles and scarlet-fever and whooping-cough; we do not fear the changes of season, but rather welcome them as agents in the great process of building a man. If the little fellow can't stand the operation, sensible people leave to sentimentalists the task of weeping over the unhappy “victim” of exposure, and renew the experiment with the next subject which opportunity affords. It is by precisely such processes of natural selection that the earth has become peopled with just such races as now exist. When the conditions which have produced such results are anywhere suddenly modified, definite results may always be expected. If the simple mode of life of a Polynesian tribe be suddenly changed in the direction of greater complexity,

it will inevitably cause a fearful mortality from diseases against which their section of the human species has never had occasion to adjust itself. But if a portion of a highly organized race, like the Anglo-Saxon, for example, be transplanted to a region where the conditions of life are less complex, but not too far removed from those to which it has always been accustomed, the first consequence will be greater immunity from disease and a diminished mortality. This is owing to the hereditary transmission of the ancestral complexity of structure, which for a time preserves those adjustments of the organism by which it is enabled to contend successfully against adverse forces. In time, however, the universal tendency to perfect equilibrium between internal and external forces will assert itself, and the descendants of the most highly organized races, especially if shut out from intermarriage and intercourse with more favored branches of the parent stock, will sink to the level of the inferior variety.

The bearing of all this upon the course of epidemic disease in any given community is obvious. Exclude measles, for example from an island for a century or more. A race of men is produced whose physical organization has never been disturbed by the impact of the causes of measles. The consequence is a structure wholly out of equilibrium with such a force, and exceedingly sensitive to its influence. Now introduce the disease into such a community, and it will spread like wild-fire, with a terrible severity and great mortality. Witness the epidemics of measles at the Faroe Islands, and at the Sandwich Islands. At length, however, the organization of the race adjusts itself to the new force; it is no longer sensitive; the epidemic "dies out" and if soon reintroduced its lack of fatality is like that observed where the disease is always endemic. We see the same thing illustrated by the course of scarlet-fever in our own communities. This is, also, the reason why the first outbreak of an epidemic, like cholera, is attended with a rate of mortality which steadily diminishes with the progress of the pestilence. These considerations, also, explain the futility of all those efforts at stamping out disease which are based simply upon non-intercourse. Disinfection and such processes as vaccination, afford the only methods which afford a reasonable hope of limiting the ravages of communicable disease.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

TWENTY-NINTH ANNUAL MEETING—HELD IN THE CITY OF
BUFFALO, JUNE 4TH, 5TH, 6TH AND 7TH, 1878.

(Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER, by Roswell Park, M. D., of Chicago.)

GENERAL SESSION, TUESDAY.

The Association was called to order in St. James Hall at 11 a. m., the President, Dr. T. G. Richardson, of New Orleans, in the Chair. The stage was occupied by the other officers, and later by the Canadian delegates. Prayer was offered by the Rev. Dr. Van Bokkelen, of Buffalo. In answer to the call for the ex-Presidents, Drs. Gross, Davis, Toner, and Bowditch appeared upon the stage. Dr. Thos. F. Rochester, of Buffalo, gave the address of welcome in behalf of the committee of arrangements, offering the freedom of the college and hospitals, and the principal public institutions, declaring that the entire profession of the city had resolved itself into a committee of the whole to assist in making the visitors' stay pleasant and profitable.

Various charges against members or local societies were read and referred to the judicial council. A congratulatory cablegram from Dr. Marion Sims, now in Paris, was read. After some minor business the President delivered the annual address. Without attempting to give even a synopsis of his admirable paper, we will state that he laid particular stress upon the following points: He first alluded to the grand cause of adequate and thorough medical education, and the necessity for a more elevated standard, lamenting that, while the sentiment of the

association in times past and the measures proposed were incisive enough, the association had no power to carry them out, and they therefore remained simply as mementoes. He briefly alluded to the history of the movement, and for the first time in the public proceedings of this body, so far as the writer knows, was the Chicago Medical College credited with having taken the initiative in this matter. Being convinced that the current of reformation had taken the right direction, he felt that more must first be done to interest the great body of the profession, instead of assuming the aggressive with the medical colleges. It was from the professional public that the colleges derived their material, and it was only by awakening in these the desire for something higher and better, that the desired end could be attained.

He put in a plea for a more thorough organization of local societies and earnestly hoped that the sixty thousand physicians of this country would affiliate themselves with the Association by means of the usual means of representation.

He found much reason to regret that original investigation was not a more marked feature in the advance of scientific work in this country, especially when contrasting work done here with that done abroad, saying that a few such men as Smithson and Hopkins and Boylston and Toner, were not enough to give the universal encouragement which our home science needed. He recommended either or both of two methods to foster this spirit of original research. One was to concentrate the influence of the entire profession upon congress in order that it might take appropriate measures. In connection with this topic, the speaker referred to the magnificent collections of books and specimens and the work done by the government medical service, and thought these might be made the basis for still more work. His other plan was that the annual dues should be doubled, and the money thus turned into the treasury of the Association should be used in stimulating and rewarding really original work. He had reason to think that if the Association should become incorporated, funds would from time to time be committed to it by will or otherwise for such purposes.

The concluding portions of the address were given to a consideration of State Medicine, whose general questions he con-

sidered the most important that ever came up for discussion. He alluded to what had recently been done. Nine State boards of health had been established since the Association, in 1875, first made an appeal to the executive officers of different States. He considered the movement a grand crusade in which every one should be glad to join. He understood the objects of State Medicine to be threefold: First, prevention, by official measures, of the spread of disease not strictly limited to the individual; second, the qualification of men not only for the practice of medicine but for that of public hygiene; and, lastly, the enactment and enforcement of such laws as shall secure to all the benefit of services of the best professional experts in questions of a medico-legal character. If this statement were true how vast the field! The public were fearfully ignorant of hygienic laws, and yet Prof. Tyndall has said, "if anything is to be done in the way of really great sanitary improvement, it must be from the people themselves." But "how shall they (the public) hear without a preacher? And how shall they preach except they be sent?"

Even among the rank and file of the profession, the ignorance in these matters was deplorable. Among other remedies the proper education of the children in our schools, by inculcating the elements of a sound physiology and hygiene must stand prominent. He advocated a national council of health with members from every State, and was grateful for what had been recently done by government, in requiring frequent reports from consuls abroad as to the condition of health in their respective localities.

The address was well received by a large audience, and received frequent and merited bursts of applause.

Dr. White, of Buffalo, 1st Vice-President, who occupied the chair during its delivery, moved that a committee, to consist of the president and his four immediate predecessors in office, be appointed to consider its suggestive points and report. This was seconded by Prof. Gross, in a complimentary speech, and unanimously passed.

Dr. Brodie, of Detroit, read the report of the delegation to the Canadian Medical Association, showing perfect accord and sympathy between the two bodies.

Dr. Sayre also made a verbal report of his visit and warm reception as a delegate to the British Medical Association.

The report by Dr. Seguin, the American delegate, of the conclusions arrived at by the International Medical Congress, held at Geneva, was then read by the Secretary. The American delegates were charged "to advocate the adoption of a progressive uniformity of means of observation and record, with the concurrence, if possible of the members of this congress who should be found there, advocating the application of uniformity in this and other departments of science." For physicians and surgeons the principle accepted by the Congress is a gradual international uniformity of nomenclatures, scales, measures, calibers of instruments, of records of private and hospital practice, physiological experiments, medical clinatology, barometry, thermometry, statistics, etc.

In pharmacy the congress has accepted the conclusions voted at St. Petersburg and Brussels, to wit:

1. The adoption of an universal pharmacopœia, in Latin. 2. The metric system for weights and measures; the centigrade for temperatures. 3. A uniform nomenclature. 4. The chemical preparations to be of determined strength, and the pure drugs to be of assayed strength when possible. 5. Simplification of Galenical preparations, and description according to a uniform plan. 6. The other, and especially more powerful preparations to be made uniform. 7. Physicians to be left free and responsible for non-official ingredients and doses of magistral preparations.

The pharmacists now planning a new American Pharmacopœia have been notified of the above, and have been warned that they cannot succeed in founding an uniform pharmacopœia without the concurrence of physicians. The report concluded by recommending a commission on uniformity in physic, with power to adjoin specialists in accessory arts, to report from the next meeting of the A. M. A. the standards and conclusions arrived at to the next International Congress, which meets at Amsterdam, three months later; and was signed by Drs. Seguin, Sims and Drysdale.

SECTION MEETINGS, TUESDAY AFTERNOON.

SECTION I. *Practical Medicine, Materia Medica, and Physiology.* Dr. A. S. Loomis, of N. Y., chairman. Dr. Shoemaker, of Pa., read a paper on "Ringworm in Public Institutions," which gave a synopsis of his experience with cause and cure of this affection, and its prevalence in public schools. Some interesting experiments, showing the exchangeability between animals and children were related.

Dr. N. S. Davis, of this city, read a paper upon the "Causes of Pulmonary Tuberculosis." He thought climatic influence was overrated, and that the real causes were lack of proper exercise and food, ill-dressing and dampness. This paper excited general discussion. Dr. Glasgow, of St. Louis, presented a rare and interesting specimen of casts of the smaller bronchi, expectorated in the course of a case of fibrinous or croupous bronchitis, with a verbal report of the same. The Doctor was requested to keep the case under observation, and report at the next meeting, with details of progress and treatment.

SECTION II. *Obstetrics and Gynecology.*—Dr. Jenks, of Detroit, chairman. Dr. Parvin, of Indiana, read an elaborate paper on "Ovotomy," his name for Dr. Thomas' operation of Laparolytrotomy, already referred to and described in this journal. While admiring its ingenuity, he thought the cases would be very rare where the operation would be called for. This paper, with subsequent discussion which it elicited, consumed most of the afternoon.

SECTION III. *Surgery and Anatomy.*—Dr. Henry H. Smith, of Philadelphia, chairman. By special arrangement Dr. Howe, of Buffalo, presented a case of a plastic operation where he had transplanted a piece of integument from the forearm to the lid, with success. He thought the size of piece transplanted justified the exhibition of the case. It was about 6x4 cm.

Dr. Gay, of Buffalo, presented reports of two cases of "Excision of the Diaphysis of the Tibia," where he had removed the entire diaphysis, and where new bone had supplied the place of that removed, while both patients were to-day about on their feet as usual.

Dr. Weeks, of Portland, Me., read a paper on "Septicæmia

following Resection of Bones," founded upon a case where it followed the resection of an amputation stump. He took the ground that in septicaemia there is diminished coagulability of blood, while in pyaemia it is increased; that pyaemia never complicates a case until sufficient time for the formation of pus has elapsed, while septicaemia may take its inception within a very few hours after the injury or operation; the latter being caused by some blood changes, but not by the introduction of pus. In discussing the paper Dr. Keller, of Arkansas, said he had found in some such cases that quinine in large doses would act as a sedative and hypnotic when opium would not.

Dr. Henry H. Martin, of Boston, next detailed his method of doing "Tracheotomy without Tubes," by making the incision as is generally done, and then inserting, with a curved needle on either side, a silk or silver suture through a ring of the trachea and the integument, and thus gently stretching the lips of the wound apart, tying the threads behind the neck, and reinforcing them by strips of adhesive plaster appropriately placed to keep the opening patulous. This method required no case of instruments, and was especially suited for emergencies. By this means he had saved two out of five moribund cases operated upon.

Dr. Carpenter, of Pottsville, Pa., in a paper on the "Identity of Hospital Gangrene with Diphtheria," enumerated the following points of resemblance: Their causation, the interchangeableness of their miasm, their pathological features, their double form and course, the fact that, in both, local infection was preliminary to general, the parallel methods of cure—the same remedies being used with success in either disease, and lastly, similar modes of death and the comparative frequency of heart clot in both diseases. He said that he had met with isolated cases of hospital gangrene in the mountains of Pennsylvania.

A paper by Dr. Sayre was read in abstract, and one by Dr. Clay, of Pennsylvania, on "Peri-typhlitic abscess," by title.

Dr. Alfred Post, of New York, read a paper on "Plastic Surgery," giving reports of cases, and Dr. Moore, of Rochester, described a very ingenious new method of operating antiseptically by utilizing the known properties of carbonic acid gas, simply

directing a stream of it upon the parts, or immersing them, as it were, in a stratum of the gas.

SECTION IV. *Medical Jurisprudence, Chemistry and Psychology*.—Dr. Kempster, of Wisconsin, Chairman. This section was not organized till the next day.

SECTION V. *State Medicine and Public Hygiene*.—Dr. Cabell, of the University of Virginia, Chairman. Ex-President Bowditch detailed his patient and laborious "Studies of an epidemic of diphtheria" in Vermont in 1877. He described the locality and traced the epidemic with great care. At its conclusion, he moved its reference to a committee of experts. It was finally, after discussion, referred to the committee of publication.

One of the features of the meeting was a paper by Dr. Seguin, of New York, on the "Intervention of physicians in education." It excited great interest, and is worthy of introduction here in full, did space permit it. He started with the thesis which he had formerly insisted upon, that "new social and individual wants demand new solutions of the problem of education, and most of these expected solutions rest with the physician and the physiologist." The physician's labors should begin, 1st, during vacation. He should then attend to cleanliness, drainage, ventilation, lights, etc., see that the books and charts were suited to the range of vision, the desks to the size of the scholars, and the seats to the diversity of shapes, especially among the girls. 2d. Before school begins, he should thoroughly examine every scholar, recording accurately his results, as to anomalies of size, proportion, vision, or other senses, etc., and decide whether any departure from the ordinary curriculum is called for in individual cases. 3d. He alluded to the increasing prevalence of myopia of school origin, and to the predisposition to hemiplegia later in life, which the habit of working one hand or one side of the body more than the other would cause. 4th. The doctor should make a daily round of the school to guard against the introduction of zymotic or contagious disease, regulate the temperature, discover simulated or dissimulated disease, and to note the effect of courses of studies upon children and any intellectual perturbations. 5th. The physician must interfere in education as soon as the effects of overwork are perceived. 6th. He should create and organize

the physiological training and sharpening of the senses and of the hand, taste should be developed and manual dexterity encouraged. 7th. All this time he must keep this record of vital powers, and finally add a summary of the students' physiological powers of perception, action and endurance. In a word, the teachers' certificate should tell what the scholar knows, and the physician's what he can learn. The Doctor concluded by saying that the true riches of this country would be its children, if properly educated.

The paper was emphatically endorsed by those present, and Dr. Frank Hamilton was requested to give a summary of the paper and his own experience in the matter at the meeting in general session the next morning.

WEDNESDAY MORNING—GENERAL SESSION.

The Association was called to order by the President at 9:30 sharp. After election of members by invitation, and reading of letters from Dr. Battey, of Georgia, and Dr. Vaughan, of Mississippi, regretting their inability to attend, the reports of the Judicial Council were called for. None of the charges against members were sustained. It was decided that the local societies of Hot Springs and Garland county, Arkansas, on account of their severance from their State society, should lose their recognition by the association. The report was signed by the Secretary of the council, Dr. Benham.

Dr. N. S. Davis made a special report for the council concerning the charges against the Michigan State Society. The charge was an alleged violation of the code of ethics in electing as a delegate, Prof. E. L. Dunster, of Ann Arbor, knowing him to be engaged in aiding and abetting the graduation of students devoted to an exclusive dogma in practice. The reporter said that careful scrutiny failed to show any clause of the code that referred, even remotely, to the practice that constituted the basis of the above charge. The only clause that could be so considered was that referring to consultation at the bedside. To interpret the conduct of Dr. Dunster as having ignored this clause, would be not only to violate all principles of judicial construction, but would establish a precedent in latitudinous construction of the code, more

dangerous to the best interests of the profession than all the evils sought to be remedied. While the council deprecated such aiding and abetting in teaching and graduating students in singular and exclusive dogmas as beneath the dignity of right-minded men in a liberal profession, they found no clause in code, by-laws or constitution, under which the charge could be entertained and adjudicated.

During the excited discussion which this special report provoked, the presiding officer displayed the same familiarity with parliamentary rules which marked his administration during the other sessions. Pending further action, Dr. H. H. Smith delivered his address, as Chairman of Section III.

He took for his subject, "Certain Points in the Pathology of Bone, especially Tubercle." Alluding to the old opinion that the skeleton was simply intended as a support, he went on to say that more recently a new function had been assigned it, the interior of bones being now regarded as a focus of origin of the red and white blood corpuscles, while by the same means septic matter was often introduced into the general circulation. He considered the physiology of red and yellow marrow, and mentioned that the coloring matter of yellow marrow, the corpora lutea, of yolks of eggs, and of ordinary fat, was identical. He quoted most recent investigations by various observers. The lymphatic structures of bone were briefly described, and its great vascularity at greater length. He alluded to the fact that nowhere in bone were the vessels separated by more than the 1-130th of an inch. Realizing these facts, one could readily understand the liability to inflammation and inflammatory changes, especially the formation or "deposition" of tubercle. The speaker mentioned several cases in his own experience where severe osteo-myelitis had followed exposure, without injury or any extension of periosteal inflammation, and said that similar results followed oftener than was generally supposed. One origin of septicæmia could thus be traced; and to prevent this very result he urged the trephining of bones when osteo-myelitis had set in, to give free exit to pus. He mentioned illustrative cases, and said that now no *post-mortem* was complete without a careful examination of the bones.

He referred then at greater length to tubercular changes in bone, and insisted that hip-joint disease, Potts' disease, and similar maladies were much more frequently the result of such change than of injury. He laid great stress upon this matter, and the remainder of his address was devoted to elaborating it and combatting the contrary opinion.

With respect to tubercle his conclusions were :

1. That it was intimately connected with the lymphatics and was deposited in them and in the spongy texture of epiphyses and short bones.
2. That when thus deposited it developed just as when in other situations.
3. That it affected the vessels and cancellated structure rather than the ligaments and cartilages.
4. That the destruction of ligament and cartilage was the effect rather than the cause of impaired nutrition.
5. That softening tubercle caused congestion and inflammation of bone-cells about the deposit.
6. That perverted myeloid cell-action was consequent upon such change, and reacted by modifying the formation of blood corpuscles.
7. That so-called scrofulous disease of bone was essentially perverted myeloid cell action.

The address was received with great interest and was one of the features of the meeting.

Following it, Dr. Hamilton read a synopsis of Dr. Seguin's paper, as requested by the Section of State Medicine, and related in a characteristic way some of the experiences of a few New York City physicians who endeavored, but without success, to have one respectable practitioner appointed upon their city Board of Education. From what he said the writer could but conclude that it was the same old story which Chicagoans have so often heard ; that prostituted political influence is supreme where it ought not to be tolerated.

At the conclusion of his remarks the Association unanimously adopted the following resolution :

That in the opinion of this Association medical men ought to have a voice in the construction and location of public school

buildings; in the question as to the age at which children should be admitted, the hours of study, and the general management of these institutions; and to this end it is believed to be necessary that one or more intelligent physicians should be placed upon Boards of Education, Boards of Trustees, and upon other similar boards having the control of public education and schools.

Dr. E. W. Jenks, of Detroit, chairman of the Section on Obstetrics and Diseases of Women and Children, then delivered an extended and very able address on "The Causes of Sudden Death of Puerperal Women." Among these causes he particularly mentioned:

1. Lesions of the Circulatory System; especially mitral stenosis, endocarditis, fatty heart, arteritis, phlebitis, thrombosis, embolism, etc.
2. Lesions of the Respiratory System.
3. Lesions of the Nervous System; eclampsia, tetanus, apoplexy, shock, etc.
4. Puerperal Septicæmia.
5. Various other causes, as rupture of uterus, emotion, hæmorrhage, traumatism, etc.

The reading of this address also elicited marked attention.

A recess was then taken to permit the delegates to select the Committee on Nominations.

When called to order again, in reference to the matter of deficiency of the code of ethics, already alluded to in this morning's work, the following preamble and resolution, offered by Dr. J. R. Bronson, of Massachusetts, were referred to the members of the Judicial Council as a committee:

Whereas, By the report of the Judicial Council, submitted this day, we are informed that the ethical code of this Association is imperfect, in that it does not recognize by its letter a conceded violation of the spirit of our profession in its relation to irregular medicine; therefore,

Resolved, That said Council be instructed to submit to this Association at their meeting, for its consideration, an amendment to the code covering this omission.

A resolution offered by Dr. Foster Pratt, of Kalamazoo, Mich.,

in relation to the legal status of the insane, was referred to the section on medical jurisprudence.

This closed the morning session.

AFTERNOON—SECTION WORK.

SECTION I. The first paper was one by Dr. G. M. Beard, of New York, upon "Practical Points in the Electrical Treatment of Impotence," which was well received and discussed.

Next was an important paper on "The Neuroses of the Pneumogastric and Sympathetic," by Dr. J. J. Caldwell, of Baltimore. It was discussed by Dr. Palmer, who endorsed the theory presented.

A paper on "The Metric System in Medicine," by Dr. Edward Wigglesworth, of Massachusetts, was read. The system, he stated, has been recommended for use throughout the United States by the State medical societies of both New York and Pennsylvania.

A paper by Dr. Bulkley, of New York, "On the Use of the Solid Rubber Bandage in Treatment of Eczema and Ulcers of the Legs," was read by title, the author being absent.

SECTION II. The first paper was by Dr. Reamy, of Ohio, entitled, "Hour-glass Contraction of the Uterus, Prior to Expulsion of Child, with Case." This was a report of such a case, with inferences and practical deductions. In discussing it Dr. Dunster said he had once seen such a case, where he could see underneath the abdominal walls the longitudinal fibers, only, contracting; he explained such phenomena on the ground of separate innervation of the different sets of fibers.

Dr. Stover, of Rhode Island, then read a paper on "The Frequently Gynæcological Origin of Inherited Forms of Strumous Disease, and the Consequent Indications for Treatment," The section was shown a number of new instruments and appliances.

SECTION III. Dr. H. H. Smith then gave a demonstration, from a number of moist and dry preparations, of points referred to in his address delivered that morning. Time being granted for discussion, Dr. Gouley, of New York, objected to the use of the term "*deposition* of tubercle." He thought we did not know much about tubercle, but that, inasmuch as we are coming to re-

gard it as a hypertrophy or hyperplasia of normal elements, the term "deposition" was incorrect; that the term "metamorphosis," if we must have such an one, would be preferable.

Dr. Sayre rose to combat the idea that hip-joint disease was largely of tubercular origin. He reported a case, which he had seen in England, of traumatic origin, where the family pedigree, as traced back for several generations, was exceptionally healthy. He alluded facetiously to the fact that in this country we kept with scrupulous care the pedigrees of our horses and cattle, but that it was very difficult to get a clear family history two generations back.

Dr. Julius F. Miner, of Buffalo, took the floor and read a paper entitled, "The Extirpation of the Thyroid Gland," illustrating the same with several specimens, which were passed around upon plates. He quoted the discouragement of the operation made by various authors, expressed the opinion that this denunciation was unwarranted, and exhibiting three specimen growths recently removed, gave their history, and the condition and experience of the patients from whom they were taken. In conclusion, Prof. Miner held that if all other means fail, some goitrous tumors may be extirpated with the knife, with reasonable hope of success.

He was asked by Dr. Sayre whether the vessels were ligated before or after division, and Dr. Miner replied that most of the blood vessels were ligated immediately after the division. Only one was generally ligated before division. Dr. Sayre then made some remarks upon the subject. He also discussed the subject demonstrated by Dr. Smith.

Dr. B. A. Watson, of Jersey City, then interested those present with an exhaustive and carefully prepared paper upon the subject, "Disease Germs; their Origin, Nature and Relation to Wounds." The conclusions drawn by Dr. Watson were:

First. That there are certain germs in the air, more particularly in the atmosphere of overcrowded hospitals, which, if permitted to enter wounds, give rise directly to living organisms, and indirectly to all septic conditions which are found as wound complications.

Second. That the successful management of wounds depends principally on the ability of the surgeon to keep the wounds under

all circumstances and at all times free from germs and living organisms; and therefore the value of any method of wound treatment depends primarily on the degree of antiseptics which can be obtained by it.

Third. That the occasional discovery of a few bacteria in a wound, which has been treated antiseptically, does not disprove the fact that these bacteria arise from germs; but may be satisfactorily explained in a variety of ways, especially by the existence of germs which have not been destroyed by the means employed.

The next paper was by Dr. Hyde, of Courtland, N. Y., whose subject was "The Process of Repair in Wounds with and without Antiseptic Treatment." Dr. Hyde endorsed the use of the antiseptic treatment so far as it proved itself, though he did not regard it as being fully established at the present time. As to what treatment should be adopted, he said: "First it should aim to protect the purity of the primary exudation, that it may become as soon as possible fibro-cellular-tissue; and maintain its just relations to the sundered, injured textures, that its advancing development may not be hindered, but on the contrary, made as summary as possible.

Dr. Burns, of Philadelphia, read a brief paper on "Conservative Surgery in Compound Fractures," which embraced the history of a case which constituted, in his opinion, an entirely satisfactory example of the good results of conservative surgery under unpromising circumstances.

The Secretary read a communication from Dr. Robert Battey, of Rome, Ga., expressing regret at his inability to attend the convention.

On motion, Dr. Battey's paper on "The Permeability of the entire Alimentary Canal by Enemata, with some of its Surgical Applications," was read by title and referred to the appropriate committee.

Dr. Blodgett, of Boston, read a paper giving the history of a case of "carcinoma," with some remarks on the pathology of the disease.

Lastly, Dr. Post read a history on exsection of the articular

extremities of the phalanges of the fingers and toes for the relief of deformity of those members.

SECTION IV. Transacted its first business.

Dr. Kempster read an interesting and lengthy paper on the "General Paresis of the Insane." The paper was discussed by several of the gentlemen present. Dr. Compton stated that he never saw a case of paresis among the large number of negro insane patients which he has had under his charge.

After some desultory discussion on the resolutions referred by the convention, the section adjourned.

SECTION V. The first paper read was by Dr. T. M. Stevens, of Indiana. It was composed of answers to a series of questions addressed by the Chairman of the section in a circular. In the course of his paper he made the following statements:

"A very large proportion of diseases in Indiana is due to defective drainage. It is impossible to say what the per cent. is; all forms of malarial fever are prevalent here, and as is well known they have bad drainage as a cause, even if the theory of miasm is abandoned and that of oscillation of temperature substituted; the damp moist grounds are the homes of those forms of maladies. In Indiana we might say that two kinds of general ailments are in a greater or less degree connected with so-called malaria. One form of consumption is no doubt often due to insufficient drainage. The moist and chilly air that is inseparable to locations where the surface ground is soaked with water, is favorable to the production of one form of consumption, also some forms of catarrhal affection, pneumonia and intestinal disorder; this fact is too well known to be disputed. As to diphtheria and true typhoid fever, as we think they depend upon a specific 'germ,' or some 'vital contagion,' we do not believe that moisture in the ground or elsewhere will cause them, but it may and no doubt does act deleteriously upon the system, and often places it in a condition that invites the 'specific germ' to 'such a habitat'—as for the typhoid fever, so prevalent in certain localities and seasons in Indiana; we believe that some forms of so-called typho-malarial fever often receive the more of the specific form, so nearly in many respects do they resemble each other. * * *

"The fact must be remembered that the ground may have too

much water upon it to develop malaria, and if this be drained off intermittents, etc., will appear, but if drainage is continued, and the surface soil be depleted of its water of saturation, then they will disappear again. This chain of events often throws drainage into discredit; far better is it to flood the marsh than not thoroughly to remove the water of saturation."

With regard to the influence of rain-fall and drought on the purity of the water supply, he says: "There is no doubt that where there is an impervious clay soil, and in some degree with any soil, rains, somewhat in proportion to their extent and the quantity of water precipitated, contaminate the water supply as we have it here, viz., from rivers and wells, the filth and debris being washed into these at each rain—not only this, but the first stream of water is more or less impregnated with the filth, for say what we will, earth or sand is by no means a perfect filter. The country towns and cities are full of wells dug to the first stream, so that the inhabitants suffer from a double sense, viz.: the washing into each well, and impurities that find their way to the stream from which such wells derive their supply of water.

"Drought has of course only a negative effect upon the purity of water; when there is no rain to wash or percolate, such impurities are in a degree absent."

Concerning the spread of contagious disease by water contamination, he queries:

"Does the water ever usurp the place of air as a carrier of the exanthemata? Can the poison of diphtheria ever find its way into the body of another in this way? Such questions are to be answered by the sanitarian of the future. * * As the majority of the inhabitants of the country, as well as of cities, are dependent upon either wells or cisterns for their supply, if a large percentage of such are but the reservoirs for the most impure waters, it is important that knowledge of the dangers should be disseminated. But there should be a remedy suggested for every evil shown to exist, and we think there is one for the troubles we have mentioned, as efficacious as it is simple. There is no new principle involved, for it is merely a filter, nor is it new in application in this form, but it is not fully adapted, nor is its complete success acknowledged. The material to be used is

'front' or soft brick. With these a vaulted chamber is formed, resting upon the bottom of the cistern. This chamber may be from two to six barrels in capacity. The vault is arched at the top, similar in form to an old-fashioned 'bee-hive.'

"The bricks are laid in cement, but none is applied to the surface; the water flowing into the cistern filters through the soft brick into the vault, and by this means is rendered clear and sweet. The pipes from the pump enter this filter, the point of entrance being rendered tight by cement.

"Water will continually fill the vaulted chamber; each stroke of the pump partially exhausting it, will facilitate the flow, so that there is, at all times, a sufficient supply within the filter. Since we resorted to the expedient mentioned we have had no trouble whatever. * * Until some mode of filtering their water supply is adopted, the inhabitants of cities that are supplied by river water by means of water-works, know not what they drink, and may at any time suffer from the effect of impurities taken into their systems. We consider this mode of filtering water as capable of almost universal application, and it is for this reason we have spoken so fully concerning it."

Dr. Trader, of Sedalia, Mo., in his answer to the same circular, read next, made the following points:

"Notable are the epidemics of dysentery that have at several seasons since 1866, made their appearance in the vicinity of Sedalia and Georgetown. It cannot certainly be known whether the contamination was subterraneous or surface, or both combined. The springs, in the locality named, besides containing lead and antimony, may also have decayed animal and vegetable matter in solution, and it is quite probable that the latter two have a more deleterious influence to health than the former. Many families during our epidemic of dysentery, who used cistern waters, were seriously affected, especially those who had taken no precaution against contamination. Properly filtered cistern water seems so entirely free from any deleterious substances that those families using such water were comparatively exempt from the epidemic. * * Damp and overflowing cellars are, apparently, as prolific in the production of malarial disorder as are the bottom lands of our creeks and rivers. * *

In every case where cellars have been properly drained and dried, the betterment of the household was at once apparent."

The views of Dr. Carrigan, from Hempstead Co., Ark., may be gleaned from the following extracts from his reply:

"Our bowel affections, pneumonias, catarrhal affections and diphtheria, we regard as being dependent upon malaria. Consumption and typhoid fever we seldom if ever have as original complaints.

"In our prairies the soft lime rock underlies the soil at various depths. This lime rock is composed of 85 per cent. of carbonate of lime, which, of course, makes the water hard. In our sandy and timbered lands we usually get water in ferruginous clay or quicksand. In the prairies the depth of four or five hundred feet is frequently reached before getting water. In the timbered portions the wells will average about 30 feet. In the southern part of the State we have few springs. Nearly all the people use well water, which is usually freestone, clear and pleasant-tasted. Beyond doubt, from soil saturation, and from the timber curbing—which nearly all the country people use—we can account for the malarial diseases that we encounter in the high and well-drained portions of our country and in no other way.

A dry season is always a healthy season; out of the reach of our swamps.

To show that the water in our swamps is contaminated by vegetable decay, I would state that the people who use cistern water have better health than those who use well water.

After the conclusion of this subject Dr. Jacobi, of New York, addressed the meeting in further reply to the paper read Tuesday afternoon, by Dr. Bowditch, of Boston, on the contagiousness of membranous croup and diphtheria.

Dr. Wilcox, of Hartford, Conn., asked Dr. Jacobi the cause of diphtheritic diseases, and Dr. Jacobi said he could answer the question very easily by saying he did not know, but spoke about many cases and causes in his practice.

Dr. Abbott, of Hamburg, N. Y., spoke of an interesting case, where cutaneous diphtheria followed piercing of the ears, and the patient died. In less than six weeks afterward, there were fully six cases in the village, which indicated contagion.

Dr. Jacobi spoke of a case of a man who scratched a little pimple, and it was followed by erysipelas and meningitis causing death in four days afterward. He believed in a specific poison, but was not certain whether it was chemical or parasitic.

Dr. R. J. O'Sullivan, of New York, spoke of the diseases among the children in the public schools in New York. He said that within the past ten days a lady teacher had dropped dead while at her duty, and another, not being allowed to go home when ill, died three days afterward from the effects of nervous diseases incident to the imperfect health precautions in the public schools, where so many children are packed together.

Dr. Bell, of New York, then offered the following resolution, which was adopted :

Resolved, That Dr. E. Seguin's paper on the " Intervention of Physicians in Education " be recommended for publication in the transactions, and that Drs. F. H. Hamilton, E. Seguin, R. J. O'Sullivan, of New York ; Dr. D. B. Lincoln, of Boston ; Dr. W. H. Van Bibbon, of Baltimore, be appointed a committee to report to the Association at its next meeting upon the practical suggestions of the said paper.

Dr. Billings, U. S. A., then exhibited the designs of the Johns Hopkins Hospital to be erected at Baltimore, and explained the improved methods of ventilation, system of caring for the sick in the ward rooms, dining room and all parts of the buildings, also the system of draining under and about the hospital, which were attentively listened to.

Dr. Jones, of Toledo, moved that Dr. Billings of the United States Army prepare a paper on the construction of hospitals, to be read at the next annual meeting of the Association, which was carried.

Papers by several absentees were read by title and referred to the Committee on Publication.

THURSDAY MORNING—GENERAL SESSION.

After the transaction of some routine and minor business, the following resolution was offered by Dr. A. N. Bell, of Garden City, and was laid over under the rules until next year :

Resolved, That Section IV., on Medical Jurisprudence and

Psychology, and Section V., on State Medicine and Public Hygiene, be consolidated into one section as Section IV.

Dr. N. S. Davis, Chairman of the Judicial Council, to which was referred the previous morning the matter of an amendment to the code of ethics, then reported the following :

"In obedience to the instructions of this Association, the Judicial Council, acting in the capacity of a committee, have unanimously instructed me to report to your honorable body the following amendment and addition to Paragraph 1, Article 1, of the second division of the code of ethics, under the general heading, "Of the duties of physicians to each other, and to the profession at large," and the special heading, "Duties for the support of professional characters." The same when finally adopted to be added at the end and to constitute a part of said Paragraph 1, of Article 1. The proposed addition is in these words: "and hence it is considered derogatory to the interests of the public and the honor of the profession for any physician or teacher to aid, in any way, the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

It was ordered that under the rules the proposed amendment would have to be laid upon the table until the next annual meeting.

Dr. J. M. Toner, of Washington, D. C., Chairman of the Committee on Necrology, presented his annual report. It was a very voluminous document, containing sketches of seventy-five physicians who had died during the past year, and owing to its great length was not read but referred at once to the Committee on Publication.

The report of Dr. H. C. Wood, Chairman of Committee on Catalogue of National Library, being absent, his report asking for extension of time was read by the Secretary, and on his motion the request granted.

Next came the address by Dr. A. L. Loomis, chairman of Section I. He first gave a brief résumé of recent advances in materia medica and physiology, making special mention of jaborandi. He then passed to the consideration of the different forms of phthisis, and especially their climatic treatment. He

alluded first to the anatomical changes which occur in lung tissue in this disease, and to the pathology of the three forms, catarrhal, fibrous and tubercular.

In one class of cases the primary changes are in the cavities of the alveoli and bronchi, and are epithelial and cellular in their nature. This class would include catarrhal phthisis.

In another class of cases, the primary changes occur in the bronchial and alveolar connective tissue, and are connective tissue hyperplasias. This constitutes the variety known as fibrous.

Again, in another class of cases, the primary changes occur in the lymphoid elements of the lung, in which hyperplasia of the lymphoid elements associated with connective tissue hyperplasia form little masses or nodules, which are ordinarily termed tubercle. This class he would include under the head of *Tubercular Phthisis*. These different anatomical changes in the lungs differ so widely and give rise to such varying phenomena in the course of their development, that in order properly to estimate the value of remedial agents, the power of hygienic surroundings, and of climate to prevent or arrest their development, there must be a careful analysis of our cases, that we may determine the variety and stage of development of each case which comes under our observation.

In tubercular phthisis he had never known climate to produce favorable results, while in the other two varieties it has shown marked power in arresting and controlling the disease. There could be but little question that there were atmospheric germs which, when drawn into the lungs on inhalation, act in a chemico-local manner. They act not only upon the surface of the mucous membranes, but originate destructive processes in the lung parenchyma.

Fifteen years ago the belief prevailed that the essential climatic element for the arrest or cure of phthisis was a warm, dry atmosphere. More recent observations and investigations have settled the fact that phthisis is not necessarily hastened in its development by a low temperature, neither is it prevented or cured by a high temperature. As yet, no one has found the ideal climate for the phthisical invalid. Again, it has been claimed that the higher the altitude, the fewer were the cases of

phthisis, until at a certain elevation it entirely disappeared, and that this diminution in the number of cases was due to diminished atmospheric pressure. More extended observation has demonstrated that the altitude at which this supposed immunity exists, varies with the latitude; that the nearer the approach to the equator, the higher must be the altitude in order to accomplish the desired result. This fact seems to prove that the development of phthisis does not depend upon atmospheric pressure, for the laws which govern atmospheric pressure are ever the same at a given altitude.

Dr. Schreider, in his lectures on Climatology, states that ozone and rain, have the power of purifying the atmosphere, that is freeing it from organic substances, that the purifying power of ozone depends upon its oxydizing power, that while oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at an ordinary temperature.

Ozone destroys the products of decomposition by chemically combining with them. The presence of ozone in the atmosphere is presumptive evidence that it contains no organic substances. The air of the ocean and high mountains is richer in ozone than that of the plains. As has been already said, ozone purifies the air of a locality by destroying injurious gases, and by oxydizing decomposing organic substances. It also promotes nutrition and blood changes by supplying to the respiratory organs a most active form of oxygen. Therefore, when choosing a health resort for phthisical invalids, we should give the preference to a locality in which there is constantly an excess of ozone in the atmosphere, for experience has established the fact that there the climate is especially salubrious. For some years pulmonary invalids have been recommended to take up their abode in the midst of pine forests. It has been known that they did well amid such surroundings, but "why they did well" has been an unanswered question. The more extensive and primitive the evergreen forests, the better adapted is the climate to phthisical invalids. The turpentine exhaled from these pine or hemlock forests possesses to a greater degree than any other known substance, the power of converting the oxygen of the atmosphere into ozone, thus rendering the air of these pine forests very pure, and consequently

antagonistic to phthisical development. Experiment has shown that the direct inhalation of ozone has little if any power in preventing or arresting phthisical development. We must, therefore, conclude that it is not the action of the ozone upon the respiratory surfaces that renders the climate of localities where it is found in excess especially salubrious, but that by its power of destroying noxious gases and atmospheric germs the atmosphere is rendered so pure that its action is favorable upon the respiratory surfaces of those predisposed to phthisical development.

Temperature has always been regarded as of very great importance in the climatic treatment of phthisis. For a long time a warm sedative climate was regarded as the suitable one for phthisical invalids; more recently, it has been claimed that a cold climate is the favorable one, and that phthisical mortality decreases as we go northward.

An extended clinical experience will lead one to accept both views as correct to some extent.

It is not the mean temperature of a locality which is of such importance in retarding phthisical development, but it is the absence of sudden and frequent changes. Whether a cold or warm climate is indicated in any given case, can be determined only by the experience of the individual prior to the phthisical development.

The question naturally arises, is it possible to determine without a trial of the region, who shall go to the sea and who shall go the mountains. The experiments of Prof. Beneke seem to prove that tissue changes take place more rapidly on or by the sea than in the mountains; if this is the case we may readily arrive at the following conclusions: 1st. That individuals in whom the processes of tissue change do not require hastening are better in the mountains than on, or by, the sea. 2d. Persons past middle life, in whom phthisis has been developed, do better in sea than in mountain air. 3d. Phthisical invalids should not go to the mountains unless they are capable of considerable muscular activity. 4th. As a rule, phthisical individuals with an exhausted nervous system, with an overtaxed brain from excessive mental labor, or an all-absorbing occupation, yet who still retain considerable latent muscular power, will improve in the mountains,

while those whose processes of tissue change require hastening or stimulating, they being in too feeble a condition to take active muscular exercise, should go to sea.

Sea air is better suited than mountain air to those who cannot bear sudden changes of temperature; while the susceptibility to such changes is greatly lessened by mountain air.

The writer's experience had led him to the following conclusions:

First—That we can expect permanent improvement in cases of developed phthisis only after a prolonged residence in the locality which experience has proved to be best suited to each individual case. Permanent favorable results cannot be obtained from an annual change of climate.

Second—That cases of *tubercular* phthisis in any stage of the disease, grow steadily and rapidly worse in all localities. Such cases do best in the quiet, well ventilated apartments of their own homes, where they can be surrounded by all those influences and circumstances which tend to make a feeble invalid comfortable.

Third. That cases of *fibrous* phthisis in every stage, whether the fibrous process commenced in the pleura or in the bronchial tubes, even after retraction of the chest walls, especially in the infra-clavicular region, is well marked, and the bronchial dilations which accompany it, give the physical signs of extensive cavities, improve, and often reach a condition of comparative health, when they take up their residence in regions having very high altitude, such as are found in Colorado and in the Rocky Mountain range. The benefit which asthmatic and emphysematous invalids derive in these regions is most marked.

He had seen only a very limited number of cases of catarrhal phthisis permanently improved by long sea voyages or a residence in a warm climate. A large number in the early stage of this disease, going from a northern to a southern winter are temporarily improved; after the first apparently beneficial effects are passed, the degenerative inflammatory processes go on more rapidly than before.

The invalids whom he had found to be most markedly benefited by a sojourn during the winter months in a southern climate, were those convalescing from some acute pulmonary affection, in

whom the delayed convalescence raises the fear of possible phthisical development, and those in whom acquired or hereditary phthisical tendencies exist, yet there may be no positive physical signs of disease of the lungs. The list of such cases is a long one, and the results obtained are most satisfactory. His favorite resorts for such cases are Aiken in South Carolina, Palatka, Enterprise and Gainsville in Florida, and Thomasville in Georgia. His best results in the stage of consolidation of the catarrhal form of phthisis have been reached in those who have made a prolonged stay (varying from one year to three years) in mountain regions with an elevation of from 1,500 to 2,000 feet. Of such regions the most positive and permanent beneficial results have been obtained in Ashville, N. C., and in the Adirondack region in New York.

His address concluded with the following practical suggestions :

"It seems to me that the necessities of our time are demanding the establishment not only of well organized and thoroughly equipped sanatoriums by the sea, in the mountains, in the cold regions of the North, and in the warm regions of the South, but that our mineral springs should be utilized for the care of disease. No one doubts but they are equal if not superior to those of the old world; yet to-day we know more of the virtues of Karlsbad, Kissengen, Vichy, and Hunyadi waters, than those of Saratoga, Virginia, Arkansas, and Colorado. Has not the time come, gentlemen, when some organized action should be taken in this matter?"

Dr. White, of Buffalo, spoke in highest terms of the address,—of which a long abstract has been given on account of general interest in the subject, and then alluding to the general ignorance on the subject of ozone, offered the following resolution, which was carried :

Resolved, That the President appoint a committee of five members to confer with General Myers upon the subject of making observations as to the existence of ozone in various localities and take such other steps and measures in the matter as may be necessary for the success of the object.

The Committee on Nomination submitted the following list of nominees for various positions:

President—Theophilus Parvin, M. D., of Indiana.

Vice-Presidents—A. J. Fuller, M. D., Maine; W. F. Westmoreland, M. D., Georgia; John Morris, M. D., Maryland; John H. Murphy, M. D., Minnesota.

Treasurer—Richard J. Dunglison, M. D., Pennsylvania.

Librarian—William Lee, M. D., District of Columbia.

Committee on Library—Johnson Eliot, M. D., District of Columbia.

Next Place of Meeting—Atlanta, Ga.

Time of Meeting—First Tuesday in May, 1879.

Assistant Secretary—Scott Todd, M. D., Atlanta, Ga.

Committee of Arrangements—J. P. Logan, Chairman; H. V. M. Miller, G. G. Crawford, H. L. Wilson, J. F. Alexander, J. M. Johnson, Charles Pinckney, V. H. Talliaferro, J. T. Johnson, all of Atlanta, Ga.

Committee on Prize Essays—Robert Battey, Rome, Ga.; J. G. Westmoreland, Atlanta, Ga.; Wm. A. Love, Atlanta, Ga.; Robert Ridley, Atlanta, Ga.; Henry F. Campbell, Augusta, Ga.; J. H. Van Deman, Chattanooga, Tenn.

Committee on Publication—Dr. Wm. B. Atkinson, Chairman; Drs. T. M. Drysdale, A. Fricke, S. D. Gross, C. Wister, R. J. Dunglison, of Pennsylvania, and Wm. Lee, District of Columbia.

Judicial Council—To fill a vacancy caused by death, John P. Gray, Utica, New York.

In place of the seven whose terms expire at this meeting—D. A. Linthicum, Arkansas; Foster Pratt, Michigan; A. Woodward, Connecticut; J. M. Toner, District of Columbia; J. H. Van Deman, Tennessee; S. N. Benham, Pennsylvania; R. N. Todd, Indiana.

The committee also reported the following nominations for Chairmen and Secretaries of sections for 1879:

Section I, Practice of Medicine, Materia Medica and Physiology—Dr. Thomas F. Rochester, Buffalo, N. Y., Chairman; W. C. Glasgow, St. Louis, Mo., Secretary.

Section II, Obstetrics and Diseases of Women and Children—

E. S. Lewis, New Orleans, Chairman ; J. R. Chadwick, Boston, Mass., Secretary.

Section III, Surgery and Anatomy—Moses Gunn, Illinois, Chairman ; Dr. J. R. Weist, Indiana, Secretary.

Section IV, Medical Jurisprudence, Chemistry and Psychology—Dr. William M. Compton, Mississippi, Chairman ; L. M. Eastman, Maryland, Secretary.

Section V, State Medicine and Public Hygiene—Dr. John S. Billings, District of Columbia, Chairman ; Dr. J. T. Reeve, Wisconsin, Secretary.

The above report was unanimously adopted.

A report, signed by Drs. Davis and Gross, concerning the recommendations in the annual address of President Bowditch, at the Chicago meeting, last year, was read by the former. It was deemed inadvisable by the committee to attempt to make the alterations in the working programme of the Association recommended by Dr. Bowditch, in that they tend to complicate rather than to simplify matters. They recommended simply the striking out of the paragraph in Section 11, of the by-laws, commencing with "Papers appropriate to the several Sections," etc., and inserting in its place the following:

"It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to either forward the paper, or a title indicative of its contents and its length, to the Chairman of the Committee of Arrangements, at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the President and Secretary of each Section, to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programmes shall also contain the rules specified in the by-laws and ordinances concerning the consideration and disposal of all papers in the Sections."

Dr. Bowditch himself, of the same committee, submitted a minority report, maintaining his own position, at the same time admitting the cogency of argument of the majority report, and gracefully acquiescing in their judgment.

The majority report was adopted.

Next in order was the address of Dr. J. L. Cabell, Chairman of Section V. Devoting the entire address to matters pertaining directly to his Section, he gave a digest of what was doing in our own country and abroad. Considering first public hygiene, he said that the evidence of an advance in this direction with reference to the maintenance of the purity of the air within and around dwellings, consists not so much in the discovery of new facts or principles, as in more careful, exact and honest methods of sanitary engineering, in conformity with well-known laws of sanitary science. He alluded to the necessity for proper drainage and the proper action of the soil and consequent oxydation of organic matter by this means. He thought that in cities, the asphalt pavement would best preserve the atmosphere from contamination. He told how Dr. Frankland had recently investigated the conditions under which organic germs pass from sewage into air, and by means of decisive experiments had demonstrated the fact that the breaking up of minute gas bubbles resulting from fermentation or putrefaction is a cause of the suspension of solid organic particles in the air. If therefore, through the stagnation of sewage, or constructive defects which allow the retention of excrementitious matters for several days in a sewer, putrefaction sets in, then gases are generated, and the dispersion into the air of zymotic germs is very probable. It is, therefore, of the greatest importance that foul liquids should pass rapidly and freely through drainage pipes and sewers, so as to secure their discharge before putrefaction sets in.

The deleterious influence of cemeteries and sewerage in the neighborhood of a source of water supply, received due mention, as well as humidity of the soil, as a factor in the etiology of phthisis. He also alluded to the growing necessity for legislation concerning the pollution of rivers by sewage.

Taking up next the prevention and spread of contagious diseases, he spoke of the almost insuperable difficulties to be overcome

in the accomplishment of the work. The epidemic character of some and the cyclical periods of others, could be seen better than they could be guarded against.

He also considered as suggestive and instructive the curious fact that those epidemics which chiefly affect certain organs of the body, are most common at the season of the year when other non-specific affections of those organs are prevalent, and in places most favorable to those diseases. Thus whooping-cough and measles generally attain their highest prevalence as epidemics in the winter and spring, when bronchitis and other affections of the air passages abound. Scarlet fever nearly always spreads most rapidly in autumn, and occasionally in the spring, and at both these seasons relaxed and ulcerated throats are most common. And so for cholera and enteric fever, of which the maximum prevalence is in summer and autumn respectively, in accordance with an observation of Murchison, that "circumscribed epidemics, or the ordinary autumnal increase of fever, are often preceded by a great increase of diarrhoea." "It may be," as suggested by Dr. Ransom, "that the weakness of particular organs affords an opportunity for the entrance of the epidemic poison which has an elective affinity for those organs, and we may be able to meet and to ward off attacks of epidemics by paying especial attention to the prevention of diseases that weaken or predispose those organs to attack."

He then spoke of the prophylaxis of contagious disease, and mentioned what had been done with sulphurous acid, arsenic, etc. He also mentioned the difficulty of vaccinating a patient who is under the influence of arsenical preparations.

Alluding to the theory of *contagium vivum*, he expressed himself as opposed to the idea of spontaneous generation. The infectious matter of fevers and contagious diseases received lengthy consideration at the speaker's hands. Quoting the researches of Richardson, Burdon-Sanderson, Dalliger, Drysdale and others, he thought Prof. Tyndall had argued with pertinency and force, that "between the microscopic limit and the true molecular limit there is room for infinite permutations and combinations." He reviewed the experiments of Bastian, Tyndall, Jeffries Wyman, and Burdon-Sanderson, as well as of others.

While thus recognizing the fact that in simple septicæmia the microzymes are not the direct agents which produce the pathological results, we may justly enter a protest against the grave error of those who "maintain, in the face of all the experimental investigations relating to the subject during the last few years, that these organisms are without pathological significance. As Dr. Sanderson pertinently and justly remarks, "if these infinitely minute organisms are present in every intensely infective inflammation, we may be quite sure that they stand in important relation to the morbid process." He has further shown that bacteria grown in Pasteur's cultivated liquid, there being no putrid albuminoid matter present, are for the first crop inert, but eventually a product is obtained which possesses all the virulence of putrescent animal or vegetable infusions—a possible explanation being that the liquid becomes charged with the excretions of the bacteria or with the products of the decomposition of dead bacteria.

Now as to the doctrine of a *specific contagium vivum* for each of the specific fevers, I think it a sufficient answer to most of the objections urged against this doctrine, to remark that however plausible some of these objections may appear they are at once refuted by the conceded positive demonstration of such a contagium in a single case, namely, splenic fever. Koch having ascertained that the *bacillus anthracis* produces spores when grown in the cultivating liquid, proceeded to test the pathogenic activity of rods and spores as thus produced. The inoculation of either rods and spores into a small incision in the skin of a mouse produced splenic fever in every instance. If the tested material caused no development of rods and spores in the inoculator, it failed to produce splenic fever by inoculation. The proof is likewise nearly complete in the case of relapsing fever. It is now generally known that the discovery by Dr. Obermeier, of Berlin, of minute spiral organisms in the blood of patients suffering from relapsing fever has been fully confirmed by later observers. He then gave a brief historic sketch of the theory alluded to above, giving due meed of praise to Dr. J. K. Mitchell, of Philadelphia, for lectures delivered in 1846-47, on the cryptogamous origin of fevers.

In conclusion, Dr. Cabell thought that when we thus find innumerable analogies between the phenomena of the contagious fevers, and those connected with the development and life of certain low organisms, analogies so numerous and so close that every peculiarity in the manifestation of the fevers as to mode of development and spreading, will be found to be susceptible of interpretation in terms of the doctrine of a *contagium vivum*, and many of them not susceptible of any other explanation, and that, moreover, a positive demonstration has, it is universally conceded, been given in the case of splenic fever, not to insist upon the almost equally conclusive proof in the case of relapsing fever and diphtheria, nor upon the apparently conclusive demonstration given by Chauveau and subsequently confirmed by Sanderson and by Braidwood and Vacher, that the contagium of vaccinia and variola consists of transparent vesicles, first recognized by Beale, not exceeding, according to Sanderson, the 1-20,000 inch in diameter, it does appear that a very strong case has been made out in proof of the general doctrine in question.

Without appealing as much to what may be called popular taste, there was food for a great deal of earnest thought in this address, which was listened to with great interest by those who heard it.

Upon its conclusion, Dr. Sayre arose to a question of personal privilege, and asked that the Secretary be requested to place him upon record as opposed to the resolutions adopted at Detroit and Chicago, which declared that a fracture of all long bones could not occur without shortening. The request was granted, and the morning session ended.

AFTERNOON—WORK IN THE SECTIONS.

SECTION I.—Dr. Bulkley being still absent, the subject of his paper—the rubber bandage—was discussed, especially by Dr. Martin, of Boston, who has done so much toward its introduction.

A paper on "Separation of the Ileum and Spontaneous Occlusion of the Divided Extremities," was read by Dr. Rochester, of Buffalo, who showed at the same time a valuable pathological specimen, which served as a text for his remarks.

Dr. Palmer, of Lockport, New York, exhibited a patient who had suffered from a large goitre, which he had successfully treated by subcutaneous injection of fluid extract of ergot, and read a paper on this method, which he warmly praised.

Dr. Davis then started a long discussion on the address of Dr. Loomis before the General Session. The subject of the sanitarium was discussed from various standpoints, including the extremes of favorable and unfavorable opinions. The outcome of the discussion was a resolution that Dr. Denison of Colorado be requested to study the subject of the climatic treatment of pulmonary phthisis as he found it in Colorado, and report at the next annual meeting. The section then adjourned *sine die*.

SECTION II.—A paper by Dr. Warren, of Boston, on "Connection of the Hepatic Functions with Uterine Hyperæmias, Fluxions, Congestions and Inflammations," was read by Dr. Storer, of Newport. It was a clear exposition of the dangers of treating specific diseases without due reference to general conditions.

Dr. Storer spoke strongly in advocacy of the principles put forth in the paper. The profession, he said, were in great danger of becoming too specific in the treatment of gynecological diseases; and he felt the time had come when a retrograde movement would be a benefit.

Dr. Marcy spoke of the dangers which specialists were prone to run into in forgetting that there was anything to be watched, outside of their own territory.

Dr. John C. Irish's paper on "Dr. Burnham's Surgical Treatment of Uterine Fibroids," was read by Dr. Dunster. The subject was but briefly discussed.

Dr. E. Cutter, of Boston, was unable to read his paper on the use of electrolysis for the same disease, but made some remarks upon the subject.

A paper by Dr. Engelman, on Battey's Operation for the Extirpation of the Ovaries was read, and briefly discussed. The Section then adjourned *sine die*.

SECTION III. Dr. Hamilton, of New York, read his paper on "Exsection of the Metatarso-phalangea Articulation in Valgus of the Great Toe." He alluded to various deformities, especially

hallux valgus, caused mostly by ill-fitting shoes. In these cases of hallux valgus there was a subluxation of the phalanx, with almost complete obliteration of the synovial sac. In their treatment mechanical appliances were of little use. Amputation mutilates and removes an important point of support, and is more dangerous to life than excision. A subcapsular and subperiosteal excision of the metatarsal capitulum has been recommended, the toe to be brought into shape and the wound allowed to granulate. In his first case, he did not make the operation under the periosteum or capsule, but was yet successful. He now makes a flap on the inner aspect of the foot, slips a chain saw under the head of the metatarsal bone and removes it. He has been successful in a number of cases, and exhibited photographs of some of them before and after operation.

Speaking of the treatment of the incision with hot water dressings, the speaker took occasion to lay great stress upon the immense advantage of this method of treating traumatic or operative lesions.

On motion the regular order was suspended to allow Dr. Sayre to exhibit to the Section a child that had been treated and cured of Potts' disease by the application of the plaster jacket, after the method peculiar to himself. The child had taken no medicine, and was free from any prominent deformity.

Dr. Gunn offered the following resolution :

WHEREAS, This Section having expressed an opinion on long bones, and

WHEREAS, In general convention a member has asked and been accorded the privilege of recording his protesting vote, therefore,

Resolved, That this Section re-affirms its opinion that shortening, in cases of fractures of the long bones, is the rule in practice regardless of any of the means of treatment now in use.

The resolution was earnestly and warmly discussed by Doctors Kellar and Sayre in the negative and by Dr. Frank Hamilton in the affirmative. The resolution was finally adopted, Dr. Sayre requesting that his protest against the opinion it expressed be placed on record.

The introduction of this resolution, and its discussion, gave

opportunity for display of some little personal animosity, which seemed entirely out of place, and should be deprecated by all.

Next Dr. Packard, of Philadelphia, entertained the Section with a paper on "Fractures near the Wrist Joint," which proved interesting of itself, and called forth very interesting discussion. Dr. Moore, of Rochester, claimed that in Colles' fracture there was more or less luxation of the ulna, and illustrated his remarks by quoted cases and specimens. He claimed that two weeks was long enough for such a fracture to be done up in splints, and that the tendons and soft parts would usually suffice of themselves as a splint, so that merely a sling was called for. He reduces such fractures by a method of circumduction, pulling in the direction of the fracture, and disengaging the styloid process from the annular ligament, if it shall have pierced it, as it often does. Dr. Hamilton added a few words commending and commenting upon Dr. Moore's remarks.

Dr. McGraw, of Detroit, read a paper on the "Pathology, Diagnosis and Treatment of Cancer," discussing the uncertainty of correct diagnosis before it is too late, and advocating the early removal of any tumor or induration which was not beyond all question benign. He esteemed it dangerous to leave even skin enough to cover the wound, but would have it heal by granulation, and spoke of amputating the arm and shoulder in selected cases of cancer of the breast.

Dr. Marcy, of Cambridge, Mass., contributed a paper on the use of carbolized ligatures in the operation of herniotomy. He thought too many failures in using the carbolized cat-gut ligature due to unskillful preparation. Even the slipping of knots was avoidable if the ligature were properly prepared in the manner described by Lister.

SECTION IV. The Section was principally occupied in hearing Dr. Deecke, special pathologist of the asylum for the insane at Utica, read a paper on "Microscopic Examinations of the Nervous Centers," which proved of much value and interest to those who listened to it. The Doctor exhibited several micro-photographs prepared by himself and Dr. Gray; and also specimen dissections mounted on glass for the microscope.

SECTION V. A letter from Dr. F. H. Hamilton of New York,

was read declining to report at the next meeting of the Association on the subjects discussed in Dr. Seguin's paper, for the reason that he had not time to make such a report. A discussion then arose on the subject of the paper read by Prof. Cabell, the Chairman, before the general session during the morning.

On motion, Dr. R. J. O'Sullivan, of New York, was appointed Chairman, and Dr. William Clendinen, of Cincinnati, Secretary of a committee to present the report at the next annual meeting, declined by Dr. Hamilton.

A criticism of Dr. Cabell's address was then entered into by Dr. Bell, of New York, in which he made many excellent suggestions in regard to the sewerage in various parts of the country and the objectionable condition of most of the privy-vaults in villages and in fact nearly all of them outside of the larger towns and cities.

The Chairman then read a paper on "The Bearings of Hygiene on Therapeutics," by Dr. Black, of Newark, Ohio.

The writer concluded as follows:

"A pathological therapist is very apt to treat a chronic intermittent thus: A mercurial cathartic to clean out the abdominal viscera, then quinine in large doses, and if this does not succeed, then in larger and yet larger, to destroy or neutralize the hypothetical malaria in the system. Cases have I seen by the score, who had received such treatment for weeks and months unavailingly, who had taken quinine and iron until they were, as they expressed it, almost blind and deaf, and yet the disease persisted, with very brief cessations. As a hygienic therapist, and as one who has had a large experience with chronic intermittents, I unhesitatingly affirm of this latitude, that scarcely a case of intermittent fever need ever become chronic, and that even when so, proper management will hold the symptoms under control, until the tendency is wholly overcome. The outline of the method is as follows: Enquire carefully into the history of the case, and whether acclimated or not, directing special attention to each of the abdominal organs, and if much deranged administer the best active corrective at once. Then anticipate the next paroxysm with 12 grains quinine, divided into three doses, beginning its administration eighteen hours before the time of the expected chill. Repeat

this amount of quinine every seventh day for four consecutive weeks, but at no other time, except when the patient's indiscretion brings on an irregular paroxysm. During the intervals administer daily, gentle remedies appropriate to correct the functions that show the most derangement. These remedies should be such as will keep the organs mainly at fault, up as near as possible, to the standard of healthy action, and no more, never allowing the secretions or excretions of any organ to sink far below the healthy standard, nor causing them to rise much above it. The diet should be strictly hygienic, and so also, of the exercise, not permitting the vital energy to be spent in toil, that should be devoted to recuperation. To guard against external variations of temperature, especially in the unacclimated, flannel should be worn next the skin. The grand condition of success lies in the method and means for keeping all the abdominal organs during every day and for several weeks, up to the standard of healthy action, and thus triumphantly raise the health above the ague-point. Quinine is invaluable for the arrest of periodicity, but nothing more."

After some discussion the Section adjourned *sine die*.

FRIDAY MORNING—GENERAL SESSION.

Upon the opening of the final general session at the usual hour this morning, President Richardson announced the following ozone committee, appointed pursuant to the action taken yesterday: Dr. N. S. Davis, of Illinois, Chairman; Dr. J. S. Billings, U. S. Army; Dr. W. N. Geddings, of South Carolina; Dr. J. M. Toner, of the District of Columbia, and Dr. S. M. Bemiss, of Louisiana.

The following communication was received from the Medical Society of the State of Pennsylvania, and, after being read by the Secretary, was ordered entered on the minutes.

At the annual meeting of this body held in Pittsburgh, May, 1878, it was unanimously—

Resolved, That the Medical Society of the State of Pennsylvania, recognizing the advantages of the metric system, from its universality, simplicity and scientific character, does recommend the use of the same to the members of the society, and urges

them to familiarize themselves with it, and to advise their students to use it exclusively when they commence their medical career.

Resolved, That in all communications made to this Society in which reference is made to weights and measures, the metric system only should be used.

Resolved, That the Secretary of this society is instructed to bring this action of this society to the notice of the American Medical Association at its next meeting, and urge upon the National Association a similar action.

The preamble and resolutions were adopted.

A resolution was offered by Dr. Seguin asking the confirmation of Drs. Sims, Drysdale and Seguin as Commissioners and Delegates for the question of medical uniformity in Europe, to report next year. Adopted.

Dr. Davis next offered the following resolution, which was adopted :

Resolved, That the Section on Practical Medicine, Materia Medica, and Physiology recommend the appointment by the American Medical Association of a committee of five members, to whom shall be referred so much of the recommendations in the address of the President of that Section as relates to the establishment of proper sanatoria for consumption, and the more accurate utilizing of the various mineral waters of our country, with instructions to report at the next meeting of the Association.

Accordingly, the President appointed the following members as such committee: Dr. H. I. Bowditch, of Massachusetts; Dr. A. N. Bell, of New York State; Dr. J. L. Cabell, of Virginia; Dr. S. E. Chaillé, of Louisiana; and Dr. Charles Denison, of Colorado.

The President announced the following delegates :

To European Medical Societies—Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Lewis and W. H. Pancoast.

To the Canadian Medical Association—Drs. Brodie, Todd, E. N. Brush and W. Clarke.

The following resolutions concerning certain legal relations of the insane, offered by Dr. Foster Pratt, of Michigan, in Section V, and referred to the Association, were received and adopted :

Resolved, That the personal restraint of the insane is an essen-

tial element of the medical treatment of their disease, the use of which, as a therapeutical agency, may be justified by their insanity, just as the use of it as a public agency, for the prevention of injury to person or property, is justified by their dangerous conduct.

Resolved, That while none question the necessity for specific statutory provisions to regulate the restraint of those insane persons who are wholly or partly a public charge; we maintain,

That it is the duty of relations and friends, and it is also their natural and inherent right, whether declared or understood by statute, to restrain and to care for their sick or insane relations as private patients at their expense, in their home, or in a legally recognized and regulated hospital; and

That the exercise, by them, of so much restraint as is essential to their proper treatment of his disease, is not a violation of his rights of personal liberty; and

That their duty and right to exercise such remedial restraint are subject to State surveillance or legal limitations, only so far as may be necessary to prevent their neglect of that duty or to punish their abuse of the right.

The following report of the committee to secure the appointment of State Boards of Health was presented and adopted:

Your Committee, consisting of the President and Permanent Secretary, who are required to report annually the results of their efforts for the organization of State Boards of Health, respectfully report that they have addressed the Governor of each State, where a Board of Health has not been organized, a memorial. A few Executives have courteously acknowledged this communication and expressed their earnest desire to further our efforts. We are happy to announce that three additional State Boards have been organized, making nineteen in all, viz.: Alabama, California, Colorado, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Tennessee, Rhode Island, Virginia, Wisconsin.

Dr. X. C. Scott called up the resolution of last year, creating a new Section of Ophthalmology, Otology and Laryngology, to be known as Section VI, and moved its adoption. Carried.

On motion of Dr. E. Smith, of Detroit, Dr. H. Knapp, of New York, was made Chairman of the new Section, and X. C. Scott, of Ohio, was made Secretary.

The address of the Chairman of Section IV, Dr. Kempster, was then called for. This was principally composed of a consideration of "The Relations of Pathology to the Motor Centers." The speaker first gave a sketch of the use of the microscope in studying the histology of mental disease, and a review of the histological changes which have been discovered in such cases. Allusions to the researches of Fritsch, Hitzig and Ferrier were frequently made. He discussed the relations of the meninges to the convolutions, and quoted Crichton Browne's studies upon adhesions of the membranes over cortical motor centers as a cause of epilepsy and transient hemiplegia.

He alluded to cases of reported cure of general paresis of the insane, and considered them merely such remissions as do occur in the course of this disease. In support of the theory of localization of motor centers, he adduced numerous instances, a few of his own, and some drawn from the writings of Charcot, Dreschfeld, Ferrier and others. He mentioned the discovery of degenerative changes in the centers for members which had been amputated. In speaking of the views recently put forward by Brown-Séquard, on this subject, he said the weight of testimony and authority was greatly against him. When considering the researches of others upon the sensitiveness of the *dura-mater*, he described two cases in his own experience where convulsions had been caused by grasping with forceps the *dura*, which had been exposed by accident.

He had but brief space to devote to medical jurisprudence, but mentioned a recent Wisconsin case where the knowledge test was not considered sufficient proof of insanity. He hoped the time would come when experts would be called by the *court* when it should be deemed expedient.

The address was received with close attention.

The Secretary next read the annual report of the Treasurer, Dr. R. J. Duglison, of Philadelphia. The report concluded as follows :

"The Treasurer is in constant receipt of applications from members for volumes of the transactions of the Association which are entirely out of print. As some of the members are in possession of scarce volumes, which they may not wish to retain, the Treasurer will willingly act as a medium of exchange, and thus accommodate those who are anxious to complete their sets." [Here followed a financial statement.]

The following report of the committee on Prize Essays was read by the local Secretary and adopted:

"Your committee to determine the merits of prize essays would respectfully report: That they have had three separate papers submitted to their inspection. Two of these papers present subjects of very great interest and show original researches, but are too imperfect in the estimation of the committee to command a prize. The remaining paper, in the judgment of your committee, is fully up to the requirements. Indeed the paper is so elaborate as to fill a large space in the volume of the transactions of the Association. The paper should be considered as *two* and not as *one*. The analysis of 789 cases of operation on the carotid artery, and the careful and minute measurements of the artery and its branches in 121 subjects, showing the range of variation and the per centage of the same, followed by inferences, bold and original, naturally constitute a paper complete in itself. Another one on the same plan with reference to the innominate and subclavian, being an analysis of 300 cases, and the observation of 52 subjects, is presented to us in such a manner that we may consider the whole as one prize, or they may compete for both.

"Your committee believe that both prizes should be awarded to the two essays by one person."

On opening the sealed envelope the name of the successful essayist was found to be Dr. John A. Wyeth, of New York city.

Dr. J. J. Caldwell, of Maryland, offered a resolution creating a new Section upon "Neurology and Electrology." Action was deferred for one year.

Dr. Maddox, of Baltimore, Md., offered another resolution creating a Section on "Diseases of the Genito-Urinary Organs, including Dermatology and Syphilis." Laid over.

Appropriate resolutions in relation to the life and death of

Prof. Henry, of the Smithsonian Institute, were offered by Dr. Toner and adopted.

Dr. Parvin, the President elect, was then introduced by President Richardson, with a few complimentary remarks, and the former returned his thanks for the honor conferred in eloquent and fitting terms.

Dr. Van Deman then offered a series of resolutions embodying the thanks of the Association, to the committees of arrangement, the officers, the people of Buffalo, and the ladies.

The Association then adjourned to meet at Atlanta, Ga., next year.

The number of delegates registered was five hundred and fifty. A pleasant feature of the meeting, to the writer at all events, was the comparatively large number of the younger class of practitioners chosen to represent the interests of the profession.

The receptions tendered by citizens of Buffalo were elegant in the extreme, and the social festivities ended with an excursion to Niagara Falls Friday afternoon.

It may justly be asked what amount of scientific work was accomplished by so large a gathering? The writer feels compelled to say that the amount of strictly original work exhibited was not amazing in either extent or importance. But it must, in candor, be said that most of the papers presented either admirable résumés of their subjects, or presentations of facts in a condensed and accessible shape. No one could have been present without feeling that he had received an equivalent for the trouble or expense of the trip.

A most admirable and important feature of the meeting, to which we have endeavored to do justice in this report, was the position given to subjects and discussion pertaining to matters of State Medicine, and public hygiene. The address of Dr. Cabell, the paper of Dr. Seguin, and hints and allusions in many of the papers or reports read, furnish ample evidence that the Association is doing a noble work in this direction, which it should be the object of every member to foster and encourage.

In conclusion, the writer acknowledges his obligations to the Buffalo daily press. Had its daily reports been accessible to the readers of this journal, there had been no call for this summary.

REPORT OF A LECTURE ON THE MORPHOLOGY OF THE BLOOD IN
SYPHILIS.—BY DR. E. CUTTER, OF BOSTON.

This lecture was delivered as an extra treat during one of the evenings of the Association meeting: and while not purporting to be classed among its proceedings, and although other attractions of a social nature were offered, yet the interest it excited, and the audience it drew, certainly make a short report of it very desirable. It was profusely illustrated on the screen by the stereopticon, with photographs of the doctor's own preparations.

He first spoke of the morphology of fungi and algae, and their distinctive differences, which were that fungi give off carbonic dioxide at night, and contain neither starch nor chlorophyl, while algae give off oxygen in the day time, and contain both starch and chlorophyl. He then spoke of, and briefly described spores and sporidia; and, alluding to the number of known species, said that there were fourteen thousand species of algae and eight thousand species of fungi, known to and described by naturalists. All this was introductory to speaking of the presence of fungi in the blood.

He alluded to Salisbury's and Linstorfer's researches, and spoke modestly of his own patient and laborious investigations in this subject, extending over a period of several years.

Speaking then of the connection of fungi with syphilis, he said he had dissected with extreme care, more than a hundred chancres, and invariably found fungous filaments beneath them. The authors alluded to above had found that in this disease, the white corpuscles were enlarged, and the blood contained bacteria and mycelial filaments. He showed photographs of the yeast cell and of different fungi at the same time, with the sporidia or bacteria, regarded by some as separate organizations, by others as true spores. He then showed a variety of healthy red and white blood corpuscles, some enlarged so that the image of one corpuscle was sufficient to occupy the whole area of a large screen. He next showed syphilitic blood whose white corpuscles were much larger, and which also contained mycelial threads and bacteria, and one white cell whose walls seemed to have ruptured and extruded these spores—a phenomenon which the Doctor said he had seen occur.

The object of the lecture was to exhibit and insist upon the following characteristics displayed by syphilitic blood—the increased size of the white corpuscles, and the presence of bacteria-like spores and mycelium-like filaments, which are distinctly and always of a *coppery color*. Similar changes are noted in the blood of consumptives, and of patients suffering from erysipelas, diphtheria and other diseases, but while the fungi may present other colors, they never have the coppery hue which those above described possess. He thought the time might come when we could detect in this way the so called pre-tubercular stage of phthisis. In order to see these fungi, one must take the microscope to the bedside of the patient, and examine the blood as soon as collected. He thought this was one reason why they had been so seldom seen.

Dr. Cutter is one of the *very* few men who can handle a 1-75th inch objective; many of his photographs having been taken with a 1-50th and 1-75th. His apparatus, of which he exhibited a picture, is simple. His modesty was evidently a characteristic of the man—he claimed to be more a willing witness than a discoverer.

THE NEW MEDICAL SOCIETY met at the Washingtonian Home, Monday evening, May 13th, the President, Dr. Bridge, in the chair. Thirty-three ladies and gentlemen were in attendance.

After the admission of ten applicants for membership, Dr. Lyman read a paper on "Fermentation." After briefly reviewing the history of fermentation, the theories that have been advanced to explain its phenomena, he stated the two principle views now urged. One, advocated prominently by Pasteur, maintains that the presence of a vegetable fungus is necessary to the process; that alcohol and carbonic dioxide are excretions of this fungus after feeding upon sugar. Yet as these substances have been produced from sugar without the presence of such fungus, Pasteur saves his theory only by denying the right to the name fermentation, of any process not induced by the yeast plant or similar organism.

The other view—the physico-chemical theory, insists that the

common fact in all fermentations, is the presence of organic matter in a state of rapid change from complex to simplex forms.

A ferment is defined as "the product of an organized body; its molecules are in a condition of unstable equilibrium and are in a state of violent agitation, by virtue of which they are enabled to profoundly affect the modes of motion which obtain in the molecules of certain organized bodies or products of organizations."

Such rapidly disintegrating substances are found not only in the matter thrown off from the yeast cell (perhaps as an excrement), but also in diastase, ptyalin, pepsin, pancreatine and liver-ferment. These are the products of normal cell-action; a deviation from such normal action furnishes the ferment of hydrophobia, glanders, vaccinia, small-pox, measles, etc.

This idea simplifies the mysteries of infection, for by it we can understand not only the transfer of septic influence, but also the origin of such influence within the individual—a true auto-infection.

Moreover by supposing variations in the stability of molecular equilibrium of ferments, we may explain the variable intensity of the infection of typhoid fever, for example; and in the same supposition see the difference between sporadic and epidemic cholera.

So, too, the fatal persistence with which an unfortunate obstetrician occasionally infects his puerperal patients may be due not to any transfer of septic material from one woman to others, either by hand, clothing or atmosphere, but simply, to an infective process—"fermentation"—in the doctor's own person, which though it be impotent to affect his general health, is sufficient to profoundly impress the puerperal woman whose tissues are predisposed to such molecular disturbance.

Dr. Lyman elaborated at length the chemical theory of fermentation, with special reference to the zymotic diseases, making a very complete and suggestive paper.

In the discussion which followed, Dr. Allen mentioned two very interesting cases in which phthisis had been apparently communicated by infection.

Clinical Reports.

MERCY HOSPITAL.

Aneurism of the Femoral Artery Cured by Compression.—Reported by F. E. Waxham, M. D., House Surgeon, Mercy Hospital.

Antonio Corvini, Italian, aged 61, entered Dr. Andrews' surgical ward, March 17th, 1878, suffering from a very large aneurism of the femoral artery. Twenty days previous to entering the hospital he had noticed a pulsation in the lower third of the femoral artery, which appeared after a hard day's work. This pulsation increased rapidly in force, forming a tumor as large as a goose egg, and entirely disabling him. Upon entering the hospital, March 14th, the recumbent position was ordered, and the artery compressor applied just above the tumor. Pressure was exerted sufficient to arrest the pulsations in the aneurism, but it produced so much discomfort as to necessitate its removal, or a change of position, in a few moments. March 17th. Applied the artery compressor at several points above the aneurism, a few moments at a time.

March 19th. Finding the above means inefficient, compression was now made by two strips of board, each $10 \times 3\frac{1}{2}$ inches, placed across the thigh, one above and the other below. The under side being protected by a tin splint, well padded, the strips were fastened on the inner side by a bandage, and the free ends approximated by the artery compressor used as a clamp. This arrested the pulsations in the tumor, and was borne very well by the patient a few moments at a time.

March 20th. Still continued the use of the clamp, but the aneurism seemed hardly less in size or force of pulsations. March

23d. The tumor seemed to be diminishing slightly in size and increasing in firmness. March 24th. Patient kept up the pressure faithfully. March 26th. The walls of the aneurism seemed a little firmer. March 28th. Patient was put upon *tr. aconiti* and *tr. veratri*, to lessen the force and frequency of the heart's action.

April 3d. Pulse ranged from 52 to 56 per minute, from day to day. Pressure applied as usual during his waking hours. April 5th. No change was noted in the appearance of the tumor. April 12th. As the aneurism showed no further tendency to diminish in size, more vigorous measures were resolved upon, and continuous compression attempted. At 5 o'clock p. m., morphia gr. $\frac{1}{3}$ was given and repeated every hour and a half during the night. He bore the pressure very well for half an hour, and then became almost frantic with pain, crying like a child. When he could stand it no longer the position of the pressure was changed. Ten o'clock p. m. He bore the pressure better, as a result of the effects of the morphia. The aneurism seemed to be growing smaller and harder. Pulsations were now seen distinctly just above the knee in one of the anastomotic arteries. Eleven o'clock. Was sleeping. Compression had just been maintained for forty minutes without a change of position; the longest period to-night as yet. The aneurism was decidedly smaller, but the pulsations in the anastomotic branch seemed to be increasing. These pulsations were irregular, about thirty per minute, but quite forcible, so much so as to be distinctly heard when the ear was applied, and plainly detected by the hand, this seeming to indicate the formation of another aneurism. The patient said he felt as if snakes were crawling through his flesh below the compression; doubtless due to the blood forcing its way through the collateral circulation, and the consequent stretching of the vessels. Twelve o'clock p. m. Pulse at the wrist, 48 per minute and regular. At one a. m. continues the same. Three a. m. Left him in charge of the nurse. The pressure had to be shifted every half hour.

April 13th.—At 9 o'clock a. m. vomited after taking his morphia. No more medicine given during the day, but compression continued, shifting the position every few minutes as the pain

necessitates; 5 o'clock p. m., gave morphia gr. $\frac{1}{2}$; at 7 p. m., morphia gr. $\frac{1}{2}$, causing nausea; at 9 p. m., gr. $\frac{1}{2}$, causing emesis. Morphia not repeated but pressure still continued during the night. The pulsation in the collateral circulation had ceased.

April 14th.—Tumor appeared harder and smaller. Pressure has been applied all day, but was omitted to-night in order to give him rest and sleep. Bowels moved four times to-day.

April 15th.—The aneurism appeared very much smaller. Compression had been applied all day, but no morphia used, the patient enduring the pressure about 15 to 20 minutes without shifting; 5 o'clock p. m. gave morphia gr. $\frac{1}{2}$, to be repeated every hour and a half, and pressure continued.

April 16th.—Tumor very much smaller.

April 17th.—Pressure not applied last night but continued during the day. Morphia given in $\frac{1}{2}$ gr. doses and pressure continued to-night.

April 18th.—Pulsations in the tumor had almost ceased.

April 20th.—Applied the pressure continuously for one hour to-day without a change of position, after which the pulsations were almost imperceptible.

April 23d.—Pressure applied during the day.

April 25th.—Pressure was applied several hours without intermission or a change of position, when the limb was found greatly swollen and œdematous, pitting upon pressure. Patient complained of great prostration, dimness of vision and distress at the stomach. Pressure was immediately removed and a little wine given.

April 26th.—Has been feeling very miserable to-day.

April 27th.—Was better; aneurism almost gone.

April 28th.—Pulsation in the tumor had entirely ceased.

April 29th.—Pressure applied to-day at patient's request, although the pulsations have not returned.

April 30th.—Was dressed and walked about the ward to-day.

May 1st.—Tumor quite hard and pulsations absent.

May 2d.—Left the hospital to-day entirely cured. Time in hospital 49 days.

The patient was seen May 27th. The tumor was small and hard, giving no inconvenience, and showing no disposition to return.

NOTES FROM PRIVATE PRACTICE.

Hypodermic use of Morphia.

Several articles have appeared in this Journal, relative to the use of hypodermic injections of morphia, in the main condemning it. The reports of cases by Doctor Wenger (see August No., 1877) seem to be quite indefinite, as neither the size of dose, nor a *complete* history of symptoms, were given. In the same article, Dr. Ingals reports a case, saying, "I dissolved one-fourth of a grain of morphia in pure water," etc., the patient almost immediately developing the most alarming symptoms. May not the syncope in this case have been due to other causes? Many persons faint upon much less provocation. In Dr. Brown-Séquard's lecture, published in the May No. of this journal, page 452, he says: "The patient was to be bled; the lancet had not gone in before the patient fainted away, the heart ceased to beat, and the limbs seemed to be dead. The patient was recalled to life with the greatest difficulty. Death would have occurred if the most energetic means had not been employed immediately." Is not this case almost exactly analagous to Dr. Ingals'? In summing up the writer says: "The danger seems to arise from rapid absorption, or injection directly into the circulation," etc. Is it possible, that out of the vast number of injections used, in so few cases rapid absorption occurs? I have never seen any marked difference in the *degree* of effect, which seemed to correspond with the rapidity of absorption. Again we find, "Nothing in the patient's history or general appearance can warn us of the danger;" and, "The results of my inquiries seem to leave us no other choice than reasonable doses by the stomach, or the frequent repetition of very small doses hypodermically." Do the results of his inquiries warrant such positive assertions? Do we know all that is to be learned about the subject? The fact is patent enough, that negative evidence is not as valuable as positive, provided always that the latter *is* positive. The doubt implied in the last sentence is my excuse for relating my own experience.

During six months in 1874, that I was in the wards of Cook County Hospital daily with Dr. Steele, then resident physician, and during eighteen months of service as a member of the house staff of the same hospital, one year as resident physician and surgeon, I saw used, and administered myself, almost daily, sometimes many times daily, hypodermic injections of morphia, without a single fatal result, or any unpleasant symptom other than nausea, except in two cases.

A man aged about 40, the subject of serious lesion of both mitral and aortic valves, with dilatation and hypertrophy, and suffering from many of the severe symptoms usually attendant thereupon, was given several times, (injudiciously I now think) for the relief of very severe angina pectoris, injections of one-half grain of morphia. Upon one occasion, having instructed the nurse to watch him carefully, in about four hours' information came that the patient was as he thought, dying. I found him in a deep sleep, pulse 36 to 40, respirations 4 to 6 per minute: roused him without great difficulty and administered aromatic spirits of ammonia and whiskey, which were all that was required. The second case, an hysterical girl, suffering from facial neuralgia, was given three eighths of a grain, the solution entering a vein, as was evident from the fact that a drop of venous blood followed the withdrawal of the needle, and from the rapidity of its effect, the patient throwing up her hands and exclaiming, "oh, my head!" and acting in a delirious manner. Relief from pain and sleep followed much sooner than I ever saw it before or since, but no coma, syncope, or other serious results obtained. In private practice I have repeatedly used this method, always with relief of pain and no bad results, the dose varying from one quarter to three eighths of a grain, so large, simply because smaller amounts do not produce the desired effect. I have never seen the characteristic effects of the drug follow in a "few seconds" or "immediately," as some of the reports indicate, except in the last of the two cases, when a vein received the injection. Is it possible that absorption from the areolar tissue can take place and give rise to such formidable results in a second or two? Is it not more reasonable to suppose that some other condition gives rise to the symptoms? Again, we find the writer using these words: "The

method is of little importance provided it is safe and agreeable to the patient."

Is this entirely true? Is it of *little* importance, whether the agony we are sometimes called upon to witness, is relieved in five or ten minutes or not for two or three hours, and perhaps not at all? The well known depressing power of pain, and more, its power to *kill*, is a strong argument against this assertion.

May not these "representative physicians" have been a little careless in administering the remedy in question, either in the size of the dose used, or in not recognizing or attaching sufficient weight to some pathological condition, or idiosyncrasy, which should have deterred them from its use? One of them gave it when the pain was already relieved, just to make the patient sleep; another used ten drops of a solution in which the dose "probably equalled one and one-half grains, and may have been six and one-half grains." another uses an injection in a case of puerperal convulsions, in which probably there was already cerebral hyperæmia, (as Dr. Wenger had suggested bleeding), and the well known action of morphia would be to aggravate the trouble. *Were these men justified in so using the remedy.*

In order that physicians may not be *unnecessarily* deterred from using hypodermic injections, let all possible light be thrown upon the subject.

The ability to *stop pain* in a few minutes, is a boon worth years of discussion.

In conclusion, let me give the rules by which I am governed in its administration.

1. Never use hyperdermic injections, except for the relief of intense pain, or where the stomach will not retain the drug.
2. Have a solution, accurately prepared, so that the *exact* amount given, is in every instance known.
3. As morphine and pain are mutually antagonistic, and as it is well known that far larger doses are tolerated when pain is present, make the size of the dose proportionate to the severity of pain.
4. Do not leave the patient until sure that no unpleasant effects will follow.

H. L. HARRINGTON, M. D.

WARREN COUNTY, ILLINOIS.

Three Cases of Tracheotomy, and Recovery of Each.

Case I. Foreign substance in trachea.

On the morning of October 2d, 1877, I was called in haste to see Willie D., a robust, healthy boy, aged two years and six months. The patient was quiet, but his respirations were very stridulous, especially on expiration. A physician had been called and pronounced the case croup; but the usual remedies employed failed to hinder the progress of the disease. From the history of the case the difficulty encountered on expiration convinced me at once that there was some foreign substance in the trachea. As the child seemed in imminent danger of death from suffocation, I at once proposed tracheotomy to the parents, as the only means of relief.

After summoning another physician, who readily agreed with me as to the diagnosis, we proceeded at once to operate, chloroform being the anæsthetic used. An incision was made and a kernel of corn removed from the trachea. The wound was then closed by sutures, and covered with carbolyzed dressings. A rapid recovery followed. The operation was attended with but very little hæmorrhage.

Case II. Foreign substance in trachea.

September 10th, 1875, I was called to see Emma W., aged five years, with symptoms similar to those described above. I at once proceeded to open the trachea below the isthmus of the thyroid gland, and extracted a large bean. I dressed the wound neatly and the patient made a recovery without any bad symptoms.

Case III. Croup.

I was called in November, 1877, to see Willie H., aged five years, and found the patient suffering from pseudo-membranous croup. He had been sick about four days, and was under the care of another physician. As death was inevitable unless something was done to procure relief, we advised immediate tracheotomy as the only means of saving life. The parents of the child objected to the performance of the operation, as they thought it would be productive of instant death; but after better thought, and becoming persuaded that there was no other possible hope for the child, they consented to have the operation performed on the

next morning. With the aid of an assistant, I proceeded at once to operate. The incision had no sooner been made than the child threw out a large amount of false membrane. I then cauterized the wound and inserted the tube. Chloroform and ether were employed as anæsthetics.

I was called again in a couple of hours, and found the breathing very difficult. On removing the tube, a large piece of membrane was thrown out of the opening. I then re-inserted the tube and did not remove it for three days. Convalescence then set in, and the patient made a complete recovery in the course of weeks.

As to the time when tracheotomy is to be performed, we urge an early operation, not deferring it until the patient is asphyxiated. In my opinion, the operation of tracheotomy would be the means of saving many lives, if physicians and surgeons would resort to it sooner, as I regard the operation when properly performed, attended with comparatively little danger to the patient.

The following means of diagnosis, which we take from "Watson's Practice," if observed will prove a great help to the average practitioner: "The symptoms that imperatively cry out for the operation are, increasing pallor, cold sweats, lividity of skin and lips, extreme feebleness of pulse, and sinking in, during every effort to inspire, of the costal spaces, of the hollows above the collar bones and the breast bone, and of the flexible lower margins of the thorax."

D. A. WALDEN, M. D.

BEATRICE, NEB.

Dr. J. D. Skeer's Adhesive Splints.

A strip of adhesive plaster, one half to one inch wide, is laid lengthwise, face side up, on the face of the splint (which has been previously covered with muslin), and fastened firmly by stitches through each end.

In applying this splint to the surface of the limb, the plaster, by adhering, will retain it in place, and prevent its slipping laterally or lengthwise.

In this way splints can be retained in position, where they could not well be by any method of adhesive strips placed across the back of the splints. They are especially applicable to

fractures of the thigh in infants and children, being retained in position by the "many tailed bandage" tied over the first splint. In this way Dr. Skeer has used them for the past five or six years with entire satisfaction.

Dr. Skeer does not claim absolute priority in this, but, so far as he is aware, it is original with him.

The writer, from his own experience, can testify to its value in such cases.

A. H. FOSTER, M. D.

AUTOPSY AND BAPTISM.—*Le Progrès Médical* has recently published an article with this caption, which shows that the profession in France are fully sensible of their responsibilities and duties.

The French law requires that all autopsies shall be conducted only after the completion of certain legal formalities, which are very rigid and precise, including the permission of a magistrate under his hand and seal, and the actual presence of that official during the opening of the body.

Now, very recently, a pregnant woman at term, died (or was supposed to have died) at Champoly; and the priest in attendance, in order to baptize the unborn child, ordered a butcher to open the body. This was done, the child was extracted, and its soul saved (in accordance with the clerical theory) by the act of baptism—no magistrate being in attendance, and none of the legal formalities having been complied with.

Le Progrès Médical very justly inquires whether the priest shall have license to do that with the aid of a butcher, which the law forbids the man of science to do.

THE CHICAGO HOME FOR THE FRIENDLESS has recently made a change in its medical officers, which insures that hereafter its patients will not be treated in accordance with the tenets of the homœopathic faith. The newly appointed medical board is organized as follows: Consulting Staff: Dr. J. Adams Allen, Dr. De Laskie Miller; Attending Staff: Dr. E. Warren Sawyer, Dr. Jno. E. Owens, Dr. Jas. Nevins Hyde.

Editorial.

It must be now evident to every careful student of science, that the irresistible tendency of the time is toward the adoption of a uniformity of standards in nomenclature, and in the measurement of weight, dimension and temperature. The action of the National Government in legalizing the metric system in this country, and the recommendation, and in some instances the actual adoption, of the system by scientific bodies in America, taken in connection with the increasing number of papers which urge the necessity of such action, and explain its methods, are significant signs of the times.

However slow may be the process by which the metric system shall be introduced into the shop and the market, the intelligent members of the medical profession are evidently determined that its standards shall be observed, at least in the records and literature of science. It is clear that the adoption of the system will become general, first among the professional men of our country. They will thus very greatly contribute to its adoption in the other fields where its necessity is so apparent.

It is better to lead than to be left behind in any movement which contemplates so excellent a result. We are impressed with the fact that the Medical Journals of the United States will feel the obligation of being the great educators of their readers in this particular; and the CHICAGO MEDICAL JOURNAL AND EXAMINER, proposes to be in the advance of a movement of the proposed character.

We have therefore to announce that, hereafter, the metric system will be exclusively adopted in these pages in the printing of prescriptions and in the record of temperature and dimensions.

We beg our readers, and especially our correspondents, to take notice of this fact. In order to render the international metric system more easy of adoption, we propose to keep standing in each number of the JOURNAL, a few simple rules for the change of ounces, scruples and drachms into their equivalents in grams and centigrams, rules for the change of Centigrade degrees into those of the Fahrenheit scale, and a space ruled in centimetres and millimetres for ready reference.

And we conclude by urging those who may, at first thought, be dissatisfied with the prospect, to remember that the sooner they familiarize themselves with the system, the sooner they will learn to read what is destined to be the international language of science the world over.

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.		METRIC.
		Gms.
m i or gr. i.....equals.....		06
f ʒ i or ʒ i.....	"	4
f ʒ i or ʒ i.....	"	32

The decimal *line* instead of *points* makes errors impossible.

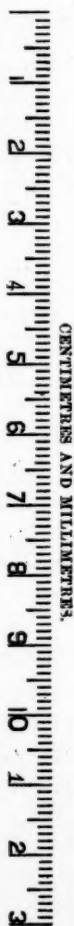
C. C. used for Gms. causes an error of five per cent. [excess.]

A teaspoon is 5 Gms. ; a tablespoon, 20 Gms.

SEDATIVE LOTION TO BE USED ON THE BROW IN PAINFUL AFFECTIONS OF THE CORNEA :

Extract of belladonna..... 1 gram.
 Extract of hyoscyamus..... 2 grams.
 Distilled water.....150 grams.

—(Formulary of *L'Union Médicale*.)



Reviews and Book Notices.

PHYSICS OF THE INFECTIOUS DISEASES. By C. A. Logan, A. M., M. D. Published by Jansen, McClurg & Co., 1878.

We commenced the "interview" of this little book with an amount of partiality, as it is a child of Chicago, but were soon greatly disappointed to find that it did not do justice to the place of its birth. The title is novel, and we expected a treat; perhaps that is one reason why we feel the disappointment the more acutely. The style of medical literature may by some be thought to be of secondary importance, but if it is so, the secondary position is in close proximity to the primary. In the present instance the style is heavy and verbose. For instance, at the bottom of page 48, on the subject of ozone we read: "The whole subject is one of immense difficulty, as involving forces and agencies of nature with which we are but little acquainted, and with whose ethereal existence we have but few channels of communication." What additional force or expression does the last sentence, "and with whose ethereal," etc., give to the already fully stated idea? Again, in the section commencing on page 46, our attention is called to the effect of ozone on "man and animals." Whatever view the author may take of the relation of man to the lower animals, man must be admitted as part of the animal world. The same remark will apply to the heading of the next section: "Its effects upon *insects and aerial organisms*." On page 43 the author says, "most unfortunately, the reported result of all these observations," relative to ozone, "are so very conflicting as to furnish no data upon which to erect any certain lights which may go to illuminate the dark corridors of disease-causation." The italics are ours, but we would suggest that we do not erect lights on data; and certainly the "disease-causation" should scarcely be likened to a house with dark

corridors. We had noted down numerous other instances still more glowing than these, but we cannot encroach more on this point. One more phrase, however, to substantiate our charge of verbosity. The author suggests an amendment to the time honored Latin dictum, *mens sana*, etc., which he would improve thus: "A sound nervous system makes a sound body." In terse English: Sound centres, sound whole.

However we may differ in opinion as to the value of style in medical literature, there will not be two opinions as to the right of accuracy to sway the sceptre. And here our author lays himself open to severe assaults. On page 143 we read: "Though the chemist by analysis may tell us the constituent atoms of certain products of the living being, and though he may be able even to reconstruct or produce some simple forms in his laboratory, yet his unimportant results in this direction only prove the existence of a force presiding over the methods of vital chemistry, which render him impotent to construct such eminently vital products as urea.

Now, in the first place, the chemist can and has for some years past manufactured *urea*. Moreover, it ill becomes any one who shows himself so little acquainted with what chemistry has done, even though he may be the most prejudiced opponent of the enthusiastic chemist, to dub his work as unimportant results, in face of the remarkable achievements which have been made in physiological chemistry in the last ten years.

In the section on nervous bankrupts, the trite observation is brought before us, page 196, "A man may labor hard at some merely mechanical work, and not suffer a tithe of that exhaustion which follows a much shorter period of brain effort by the same individual." That constitutes the substance of the whole section on "Nervous Bankrupts," and even in this observation we are obliged to differ from our author. It is not work that wearies a man, it is *worry*. It is not the work that we do that affects the nervous bankrupts, it is the work that we *fail to do*, having tried. And our opinion is that muscular work tires a man just as much as simple brain work.

There are many points of interesting discussion suggested in the book, but they would take up more space than could be afforded.

R. T.

BOOKS AND PAMPHLETS RECEIVED.

Fluid Extracts by Percolation. By Edward R. Squibb, M. D., Brooklyn, N. Y. Reprint from *Amer. Jour. of Phar.* for May, 1878, with additions by the author.

Metric Weights and Measures for Medical and Pharmacal Purposes. Published by the Government for Official Service.

The Intravenous Injection of Milk as a Substitute for Transfusion of Blood—Illustrated by seven operations. By T. Gaillard Thomas, M. D., New York. Reprint from the *New York Med. Jour.*, May, 1878.

A Contribution to the Therapeutics of Medicine. Read before the Section on Practice of Medicine in the New York Academy of Medicine, Nov. 20, 1877. By E. C. Seguin, M. D., President of the New York Neurological Society.

Lapar's Elytrotomy; A Substitute for the Cæsarean Section. By T. Gaillard Thomas, M. D., New York. Reprint from the *American Journal of Obstetrics and Diseases of Women and Children*, Vol. XI., No. 11, April 1878.

Second Annual Report of the State Board of Health of Wisconsin, for the year ending December 31, 1877.

Sterility and its Treatment. By William H. Wathen, M. D., Clinical Lecturer on Diseases of Women and Children, Louisville Medical College, etc., etc. Reprint from the Transactions of the Kentucky State Medical Society, 1877.

Amputation of Cervix Uteri. By W. H. Wathen, M. D., Clinical Lecturer on Diseases of Women and Children, Louisville Medical College, etc., etc. Read at the Kentucky State Medical Society, April 3, 1878. Reprint from May No. of *Richmond and Louisville Medical Journal*.

Comparison of the Results of the Cæsarean Section and Lapar's Elytrotomy in New York. By T. Gaillard Thomas, M. D. Reprint from the *New York Medical Journal*, May, 1878.

A New Treatment for Spine Diseases. By Meigs Case, M. D., Oneonta, N. Y. Reprint from the *Cincinnati Lancet and Observer*, May, 1878.

Suicide Not Evidence of Insanity. Read before the Medico-Legal Society of the City of New York, March, 1878. By Hon. H. O. Palmer, of New York.

Original Lectures—Tumor of the Male Breast and Cyst of the Neck. By J. H. Pooley, M. D., Professor of Surgery, Sterling Medical College. Reprint from the *Ohio Medical and Surgical Journal*.

Physics of the Infectious Diseases, Comprehending a Discussion of certain Physical Phenomena in connection with the Acute Infectious Diseases. By C. A. Logan, A. M., M. D. Published by Jansen, McClurg & Co., Chicago, 1878.

Summary.

Collaborators :

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PHYSIOLOGY.

THE GASTRIC JUICE.—(*Journal de l'Anatomie et de la Physiologie*, etc., March and April, 1878.) M. Grichet, in the above journal, has furnished its readers with a monograph on the gastric juice which cannot fail to be of great interest, both to physiologists and the medical fraternity. To appreciate the worth of the article it is necessary to know that M. G. enjoyed a privilege which happens only to few. Whilst he was serving as interne in La Pitié, a Parisian hospital, a patient obtained admission who was suffering from stricture of the œsopagus. It increased until it became absolutely impermeable. The stricture arose from taking by accident a mouthful of a strong solution of caustic potash. Its impermeability being demonstrated beyond all doubt, gastrotomy was performed by M. Verneuil, at the end of July, 1876, and in November the patient, Marcelin, was fully recovered, nourishment being of course administered by means of the gastric fistula.

M. G. has shown himself worthy of the special privilege which fell to his lot, by a series of experiments which will certainly be ranked as classical in the literature on the gastric juice. In this communication he does not confine himself entirely to his own experiments, but furnishes his readers in the first place with a succinct history of the literature on the subject, and then gives the morphology and histology of the glands of the stomach, not confining himself to the *genus homo*. It is, however, the second

and third chapters that are especially interesting to the practitioner, treating respectively of: 1. The chemical constitution of the gastric juice. 2. The gastric juice mixed with the alimentary substances and the action of the gastric juice on those substances.

In reference to the chemical constitution, by collating the experiments of the most eminent experimenters, he shows the remarkable divergence of opinion as to the substance producing the acid reaction, the votes being almost equally divided in favor of lactic acid on the one hand, and hydrochloric acid on the other.

The special precaution which M. G. has taken, and which has furnished him different results, is in washing out the stomach previous to his collection of the gastric juice for analysis. It will be remembered that the œsophagus was *absolutely closed*, and that no saliva could enter. On this account, after washing out the stomach, and giving the patient something agreeable to masticate, an abundant flow of gastric juice, quite free from saliva, and otherwise quite pure, could be obtained. This is of course a *sine quâ non* of accurate analysis. It is necessary to state here that while M. G. analyzed specimens of the gastric secretion by estimation of the chlorine in different ways, he conceived the happy idea of utilizing the principle developed by Berthelot, and known as the coefficient of separation (*coefficient de partage*). The principle is this: When an aqueous solution of an acid is agitated with ether, the ether and the water divide the acid according to a constant ratio, the numerical value of which is constant for every acid.

From his experiments, carefully detailed, it results that there is present in the gastric juice absolutely no lactic acid. He summarizes the results of his first series of experiments on this subject thus:

1. Fresh and pure gastric juice contains an acid insoluble in ether, and traces of an acid which is soluble.
2. In proportion as the gastric juice becomes old (*vieillit*) a kind of slow fermentation develops (somewhat analogous to putrefaction) and the proportion of organic acid increases.
3. This free acid seems to be sarcolactic acid.

From a second series of experiments he concludes :

1. The acidity of the gastric juice is due to hydrochloric acid.
2. This hydrochloric acid is not in a free state. A combination similar in its various reactions can be produced by heating a solution of hydrochloric acid with an infusion of mucus from the stomach.
3. This combination is hydrochlorate of leucine.

For fear of encroaching too much, we pass by the remarks on pepsin, in order to make a few abstracts relative to the experiments made by M. G. on the relation of the gastric juice to alimentary substances. His experiments that are recorded, amount to seventy. He has paid special attention to the amount and determination of acidity of the mixed contents of the stomach ; and in his experiments has always referred its acidity to hydrochloric acidity as a standard. The observations made were at intervals of from one to five hours after the introduction of the articles of food. His deductions are :

1. The acidity of the pure gastric juice gives a mean of 1.3 parts by weight of hydrochloric acid to 1,000 parts of the secretion.
2. The acidity of the gastric juice and alimentary substances taken together, gives a mean of 1.7, and seems to increase slightly toward the termination of digestion. Neither the quantity of the matter nor the liquids in the stomach seem to exercise any very perceptible influence in changing the proportion of acid.
3. Alcohol and wine increases the acidity while cane sugar diminishes it.
4. After the ingestion of acid or alkaline liquids into the stomach the general contents gradually approach the normal acidity.

To do justice to M. G.'s efforts it would be necessary to translate the whole monograph, but we must content ourselves by giving one more summation. After combating the theory that a peculiar antiseptic power is possessed by the gastric juice and showing that fermentation goes on in the stomach as well as out of it, he continues: The fermentation of the alimentary substances contained in the stomach is almost always mistaken for the secretion of the gastric juice. The exosmosis and endosmosis which is

constantly taking place in the stomach, the process being facilitated by the large number of blood-vessels with which the stomach is furnished, make the acidity remain nearly always constant, varying only in a very small proportion. While the nature of the free acid, invariable for the pure gastric juice, is, on the contrary, very changeable, differing according to the nature of the food introduced. (The acid produced may be lactic, butyric, tartaric, etc.) As a certain amount of acidity seems necessary to the stomach, this development of acids seems to be a kind of economy of nature which supplements an acid secretion—the continual production of which would exhaust the system—by fermentations of different kinds. This fermentation is the more striking in proportion as the substance which produces it is more necessary to the economy, and attains its maximum of development in milk. If the gastric juice is very acid, that is, very rich in hydrochloric acid, the fermentation and putrefaction will be very low; if on the contrary the gastric is not large and not rich in hydrochloric acid, the acid fermentation and putrefaction will be very prompt.

This by no means gives a complete synopsis of M. G.'s production, but we trust sufficient has been given to afford the student points for reflection.

ANÆSTHETIC.—*Le Progrès Médical* of May 18, announces that M. Paul Bert has discovered that a mixture of 4.5 of protoxide of nitrogen and 1.5 oxygen, under an increased pressure of 1.5 of an atmosphere, will produce complete anæsthesia in a dog without any perceptible change in pulse, temperature, or respiration. The particulars of this experiment are not given, but to clothe it with authority, we need only say that Paul Bert is the successor to the renowned Claude Bernard; that he has demonstrated by experiments on himself in an air tight chamber, that the phenomena experienced by those who make high ascensions are not due, as was formerly thought, to the rarefaction of the atmosphere, but to the diminution of oxygen. We cannot forbear to narrate here a little incident illustrative of M. Bert's patience as an observer: He was studying the effects of light on the sensitive plant, and during seventeen diurnal revolutions, he visited the plant night and day every two hours! The announce-

ment of the above method of producing anæsthesia before a Parisian assembly of scientific men by a man of such patience, is not likely to be without important significance.

PRACTICAL MEDICINE.

CONTAGIOUSNESS OF PHTHISIS. — Tappenier (*"Lo Sperimentale,"*) Jan., 1878.

All physicians have observed cases of phthisis rapidly developed in individuals who had for a long time attended on patients in this disease, even when such attendants had not presented any predisposition, either individual or hereditary. Dr Tappenier believes that the explanation of the fact is to be found in the inhalation of the expectorated matter, scattered in the air by the coughing of patients. In order to test this opinion, he made experiments, by intimately mixing a certain quantity of the sputa in a little water; he pulverized this emulsion by an appropriate process, and subjected some animals to the inhalation of the substance during one or two hours every day. These experiments were made in the Anatomico-Pathological Institute of Prof. Buhl of Monaco. Dogs were selected, as animals presenting the least predisposition to contraction of the disease. Three perfectly sound dogs were put into the pen of the institute; the pen is situate near a window, and is closed in all parts, excepting above, where it receives the external air through a door which is furnished with a fastening. Some sputa was obtained from a patient in phthisis, a spoonful of which was mixed in a quantity of water sufficient to make of it a liquid similar to almond milk, and every day pulverization of this was made in the pen during an hour, or an hour and a half. At the same time, for the purpose of studying absorption, by the digestive system, of the tuberculous matter, two of the dogs were made to swallow a certain quantity of it, from the same patient.

The whole five dogs had apparently a good appetite, and presented neither cough nor diarrhœa, they ate freely, and were cheerful and nimble, without any symptoms of illness, unless a

slight wasting and arrest of development. At first view, therefore, the experiments gave a negative result. But the day preceding the first autopsy, a little finely powdered carmine was mixed with the tuberculous liquid, in order to discover how far it had penetrated into the respiratory passages. Two of the dogs subjected to inhalation, and the two which had swallowed the tuberculous mixture, were killed six weeks after the commencement of the experiment. The autopsy of the fifth had been made at the end of three weeks.

The results of the autopsies were surprising. The five dogs presented a general miliary tuberculosis of both lungs, of the liver, the kidneys, and (at least in the two that had swallowed the tuberculous matter) of the digestive apparatus. The numerous stains of carmine which were seen on the pulmonary surface, showed that the inhaled liquid had penetrated into the pulmonary cells. The microscopic examination made by Prof. Buhl, established in the clearest manner the reality of the lesions.

It has, therefore, been established experimentally that in the dog, a general miliary tuberculosis can be induced from the inhalation, or the ingestion of the matter expectorated by a phthisical patient. The possibility of contagion of phthisis through the natural channels, may therefore be concluded.

The hygienic and clinical consequences of the experiment are of high importance. And first of all it is to be noted that those dogs continued in apparent sound health, despite the existence of general miliary tuberculosis. It is, therefore, possible that in man a miliary tuberculosis may rest latent during a certain time, and may not become a real and declared phthisis, before the development of foci of inflammation. But that which is of chief importance is the possibility of transmission of tuberculosis from man to man.

In ordinary conditions, that is to say, in fresh and frequently renewed air, the matters expectorated, and suspended in the air, may not become sufficiently concentrated to have the power of inducing tuberculous infection. But when a certain number of phthisical patients reside together, and through fear of cold or of draughts, the place is but little, or not at all ventilated, may we not fear that the expectorated matter will accumulate sufficiently to

become dangerous to healthy persons living in the same quarters? Ought we not, therefore, in this regard, to take precautions, sometimes neglected, particularly in the wards of hospitals? Is it not, perhaps, prudent to recommend to consumptives never to swallow the matter brought up from cavities, which may have a deleterious influence on the digestive canal? Finally, may not these experiments, in some degree, explain the transmission of phthisis from husband to wife, or *vice versa*, and, consequently the advisability of avoiding conjugal intercourse?

The facts stated by Dr. Tappenier are of great interest, and may explain many points of the important question of the contagion of phthisis.

THE PREVENTION OF PUERPERAL FEVER. (*Berliner Klin. Wochenschrift*, 1878.)

It appears that the idea of "listering" in obstetrics (the Germans have coined the verb "listern" to express the use of Professor Lister's antiseptic method, just as from Galvani's name we have coined the verb "galvanize") was first started by Bischoff, of Basle, in 1870 (*Correspondenzblatt für Schweizer-Aerzte*, 1875, Nos. 22, 23). His plan consisted in giving a bath as soon as the first pains of labor were observed, washing out the vagina with a 2 per cent. solution of carbolic acid every two hours, and anointing the fingers of the medical attendant with 10 per cent. carbolic oil at each examination, the hands being previously disinfected by washing them with 3 per cent. aqueous carbolic acid. In case the hand had to be passed into the uterus, or if the foetus was dead and decomposed, the uterus was washed out with a 2 to 3 per cent. solution of carbolic acid; and in every case frequent injections of the latter were made into the vagina and uterus for thirteen days after the birth of the child. Immediately after the labor, any wound was touched with a 10 per cent. carbolic solution, no ligature, if such were necessary, being applied until this had been done. Lastly, a pad of wadding, soaked in carbolic oil (one to ten), was placed in the entrance of the vagina, and constantly renewed. Under this system the number of cases in which morbid symptoms were present, consisting in a febrile temperature of more than two days' duration, and reaching 38.5°

Cent. (101.3° Fahr.) at least on one day, tenderness of the abdomen on pressure, fetid discharge, etc., was, in 1870, 14 per cent.; 1871, 22.3 per cent.; 1872, 24.5 per cent.; 1873, 16.8 per cent.; 1874, 10.7 per cent.; 1875, 8.9 per cent.; or taking the average of the whole, 16.2 per cent. for the six years.

In 1875, H. Fehling published (*Archiv für Gynakologie*, Band xiii., s. 298) the results of experiments made for about a year in Professor Credé's clinic at Leipsic, and which consisted in applying a mixture of salicylic acid and starch (one to five) to any wounds of the external genitals and in syringing the vagina four to eight times daily, in case of fever and fetid discharge, with solutions of salicylic acid ($\frac{1}{6}$ to $\frac{1}{10}$ per cent.) The effect was excellent, but the use of the carbolic spray during labor, which was also tried for some time, was given up in consequence of the post-partum hemorrhages which it appeared to induce.

In 1877, Adrian Schücking (*Berliner Klin. Wochenschrift*, No. 26) suggested that the vagina should be washed out at the end of the labor with a 5 per cent. carbolic solution, and that immediately afterwards the uterus should be continuously irrigated by means of the apparatus of which we gave a brief description in our former article on this subject. This method was carried out in eight cases, in five of which the patients had had severe labors, and all recovered satisfactorily, no temperature being recorded over 38.4° Cent. In the other three, the injection was not begun until after the commencement of febrile symptoms, but an immediate and decided defervescence was the result. Professor Zweifel's objection to Schücking's conclusion, that in the five former cases the fortunate termination was directly due to the treatment, is, first, that the number of Schücking's cases is too small; and secondly, that equally good results are possible without any antiseptic treatment. With this objection most persons will, we think, be inclined to agree.

Professor Zweifel's own method, to which we shall devote the remainder of this article, is founded partly on the use of antiseptic measures, properly speaking, and partly on the adoption of the most scrupulous cleanliness in connection with the surroundings of the puerperal woman. In the first place, all vaginal examinations during pregnancy are, in his clinic, made only after

careful washing of the hands and smearing with carbolic oil, the vagina being further washed out afterwards in some cases with 5 per cent. carbolic solution. The reason for these precautions is the possibility of infectious matter being introduced into the vagina previous to labor, of its lying there and being sucked up into the uterus after the expulsion of the foetus. "This," says Professor Zweifel, "is a possibility which no one will deny."

The rooms and beds destined for the use of the lying-in women are carefully disinfected by burning sulphur in them in fireproof vessels, allowing about four grammes of sulphur to each cubic metre of space. The bedclothes are spread out so as to expose as large a surface as possible to the fumes, which after a few hours are allowed to escape by opening the windows.

After each labor in which the hand has been introduced into the uterus, or where air has gained entrance to it, or gaseous decomposition occurred in it, the uterus is washed out with several litres of fresh water.

Since almost all the cases of puerperal fever are found to be complicated either with ruptured perineum, small rents in the vagina and vulva, or with the introduction of air into the uterus during some operation, the greatest care is bestowed on all external wounds, to which Fehling's mixture of salicylic acid and starch is applied with the best results. Careful examination of the external genitals day by day, and the use of the thermometer, are also rigorously attended to. It should be added that, at Erlangen, the Obstetric Clinic has a separate pavilion to itself, which was built in 1874. The number of births from April, 1876, to October, 1877, during which period the above method has been carried out "with pedantic strictness," has been 184, with a *single* death—that of a woman with cancer, on whom the Cæsarean operation was performed. In 143 cases the lying-in period was completely normal—that is to say, the temperature never exceeded 38° Cent., or, at any rate, was never above 38.4° on more than one day. Out of the remaining forty-one, thirteen never had any morbid symptom except a rise of temperature on one or two days to 38° to 39° Cent., or on several days to 38° to 38.5°; twenty-eight had the symptoms of puerperal fever in a greater or less degree, but of these only

twelve had protracted fever, inflammatory exudation, and showed clear signs of puerperal infection, and in only five cases was life ever in any apparent danger. It was further noticed that the cases which did badly were not evenly distributed through the whole period of observation, but were limited to the months of December, 1876, and January, 1877, and of September and October, 1877, in the form of small epidemics. On the whole, Professor Zweifel considers that his results are by no means inferior to those of Bischoff, and that they do not point to any necessity for introducing a more complicated antiseptic system into his practice. Moreover, Spiegelberg at Breslau, has carried out a system closely resembling Zweifel's since 1874, with the splendid result of only *five* deaths in *nine hundred* labors.*

With such evidence before us it seems to be our bounden duty to urge on the medical profession in this country to habitually adopt the measures by which alone, as far as present knowledge goes, puerperal infection can be prevented—namely, scrupulous cleanliness and the use of antiseptic lotions, etc., for disinfecting the examining hand and the genital organs. Even the busiest practitioner can manage to invariably examine with carbolic oil instead of ordinary oil or grease, and in the most out-of-the-way places vinegar or brandy, as Professor Zweifel says, are sure to be found as substitutes for carbolic or salicylic acid.

We are not sure that in private practice the need of these precautions is not as great as in the hospital ward; for the risk of picking up infection somewhere, and conveying it to the lying-in room, is naturally very great when the same man is seeing on the same day medical, surgical, and obstetric cases. He may go straight from a scarlet fever case to a woman in labor; and a most melancholy instance occurs to us in which a very valuable life was probably sacrificed in this way not so very long ago. The old discussions about puerperal fever, which we find reproduced even now in text-books on midwifery, are out of date in the light of our modern knowledge. We *know*, for example, that the woman who gets fever, peritonitis, and vomiting just

* For further information on this subject see also the *Zeitschrift f. Geburtshilfe und Gynäkologie*, ii., 1, containing papers by Schüller, Richter, and Langenbuch.

after her confinement, has been infected with poison *from without*—whether bacterial or otherwise makes not the slightest difference; we *know*, too, how to prevent the entrance of this poison into the woman's system, though we may be very helpless when it has once entered it. Knowing all this, and knowing, too, the high mortality from puerperal fever, and that probably more than a thousand women die of it in England every year, is it not our plain and simple duty to try and carry out, at any rate, the major operations of midwifery in future, with the same attention to antiseptic precautions as Mr. Spencer Wells observes in performing ovariectomy?

ŒDEMA OF THE LUNGS.—In a lengthy article in Virchow's Archiv (Bd 72, Heft. iii.), Dr. W. H. Welch, of New York, gives the results of his experiments conducted in Cohnheim's laboratory, on the causes of œdema of the lungs. Leaving aside the collateral and inflammatory forms, which he refers to inflammatory alteration of the vessel, he made a special study of congestive œdema. In the first place, attempts were made to cause pulmonary congestion (and œdema) by obstructing the aorta and its branches. In the rabbit œdema could be obtained only by ligating all vessels carrying blood from the left ventricle, except one—the carotid or subclavian artery. In the dog, it was found absolutely necessary to close the aorta and all its branches.

Lichtheim had previously found—and this was confirmed by Welch—that the tension in the pulmonary arteries is remarkably independent of the blood-pressure in the systemic circulation, a ligature around the descending aorta will raise the blood-pressure enormously in the still patent carotids, but will scarcely affect the pressure in the pulmonary artery. In fact the complete retention of blood in the left ventricle from closure of the aorta, raises the pulmonary blood-pressure only to about $3\frac{1}{2}$ times its original value.

To produce pulmonary œdema, an immense increase in pulmonary blood-pressure is thus requisite. Similarly, it requires an enormous obstruction of the pulmonary veins to render the lung œdematous. Ligature of all pulmonary veins will produce œdema, but not always, since the circulation will sometimes cease before

œdema pulmonalis can occur. If, however, a small venous twig alone is left patent to carry the blood back to the heart, œdema is the invariable result. The same may also be obtained by compressing the left auricle, so as to obliterate its cavity almost completely.

These extreme conditions are, however, unlikely to occur in man. How are we, therefore, to explain the frequency of œdema of the lungs, one of the most frequent observations, post-mortem? If the left ventricle were unable to dispose of the blood sent by the right ventricle through the pulmonary vessels, a stasis would finally result in the lungs. This we would expect to occur when the left ventricle is paralyzed or at least weakened as compared with the right side of the heart. After long trials, Welch succeeded in producing this condition by compressing the left ventricle with his fingers. Whenever he succeeded in thus stopping the left side of the heart, while the right ventricle continued to pour its blood into the pulmonary vessels, pulmonary œdema was the inevitable result. Its occurrence in the human cadaver depends hence, on the earlier death of the left ventricle, while the right ventricle continues a few beats. The very speedy occurrence of œdema of the lungs is explicable by the delicacy and permeability of the pulmonary capillaries, especially under as high a blood-pressure as is produced by paralysis of the left ventricle.

LESIONS OF THE ANTERIOR ROOTS IN DIPHTHERITIC PARALYSIS.—*Gaz. Méd.*, 1877, No. 33. Déjerine examined post mortem three cases of diphtheritic spinal disease in children, in one of whom during life paralysis of almost all the muscles of the body had been observed in addition to the paralysis of the velum palati. In the other two cases a similar condition existed in the muscles of the upper extremities and neck. The anterior roots of the spinal nerves were placed in a one per cent. solution of hyperosmic acid for twenty-four hours, and then examined. In the first and most severe case Déjerine found in most of the nerve fibers the signs of a far advanced parenchymatous neuritis (degeneration). The axis cylinders were gone, the medulla fissured or infiltrated with drops of myeline; the nuclei of the nerve sheaths, as well as those of the intertubular connective tissue, were multi-

plied. Similar changes were observed in some peripheral nerves taken from the muscles; the muscular fibers themselves seemed entirely intact. Similar, though less marked, were the changes observed in the other two cases, in which the paralytic symptoms had been less extensive, and of shorter duration than in the first case. The changes in the nerves resembled those which appear when the nerves for any reason are deprived for a long period of the influence of their trophic centers, and it seems probable, according to Déjerine, that the changes in the peripheral nerves are dependent upon a cellular intra-medullary lesion. He promises the results of the examination of the cord at a future time.

SURGERY.

ON A CASE OF UN-UNITED FRACTURE.—Dr. Max Schüller, of Griefswald. (*Deutsche Medicinische Wochenschrift*, March 2, 1878.)

Dr. Schüller observes that the employment of antiseptic precautions must materially change the opinions formerly entertained as to the danger of resecting the ends of the fragments in un-united fracture. Hence, of late years, we find this mode of treatment very frequently resorted to, amongst others by Volkmann, Bardeleben, and Langenbeck. The value of this method of treating false joint, as compared with the many others from time to time practiced, is, the author considers, yet to be determined. As a partial solution of the question, Dr. Schüller has published this case.

Frau H., 40 years of age, a healthy vigorous woman, sustained a fracture of the leg from the wheel of a heavily laden wagon passing over it. Gypsum bandages were immediately applied, but, after eight weeks' treatment, no consolidation had taken place, and no formation of callus could be felt. A fresh trial of plaster of Paris bandage was now made, and a three per cent. solution of carbolic acid was injected from a hypodermic syringe near the seat of fracture; a plan recommended of late years by Professor Hueter for the treatment of cases of delayed or non-

union. Six months were consumed in various trials, and, at the end, there was not the slightest degree of union. An operation was then decided upon. A careful examination showed a marked interval between the fragments, so that pegging was not thought suitable. An incision, two and a half inches long, was therefore made, the seat of fracture exposed, and the periosteum raised from the ends of the bone, which were rounded, while between them passed the tendinous termination of the tibialis anticus muscle. There was not a trace of bone-proliferation. The muscle was now restored to its proper position, and the ends of the bones cut off, partly with the saw, and partly with the chisel, to the extent of a centimetre from each. After forcible traction, the fresh surfaces of bone could be accurately adjusted together, the fibrous connection of the broken ends of the fibula being divided simply with the knife, but the bone not otherwise interfered with. As the fragments of the tibia showed no tendency to separate, ivory pegging, or silver-wire suture, was not employed, but the carefully preserved periosteum was accurately united by fine cat-gut sutures, a small opening only being left to allow a fine drainage-tube to pass between the bones. Another and larger drain was passed outside the periosteum, and through a counter-opening made in the calf. The skin-wound was now sutured with cat-gut, the limb enveloped with salicylized jute, and a gypsum bandage, reaching over the knee, was applied. The whole operation was performed with strict antiseptic precautions. Except the day afterwards, when the temperature rose to 38.5° C. (101.3° F.), there was never any fever. The whole dressing, plaster of Paris bandage included, was changed every few days at first; then a window was made in the plaster, and the dressings of the wound alone renewed. The external wound healed by first intention, but a slight discharge continued for a long time from the interior. A small fragment of bone subsequently exfoliated, and then immediate and thorough healing followed; and, at the end of four months, complete consolidation had taken place, in good position, and with a shortening of only half a centimetre at the outside. The author preserved the periosteum in this case with the greatest care, believing it has the chief part in the act of union, the endosteum somewhat less, and the bone-

substance proper very little. The plan of pegging, he considers, has its principal result in fixing the fragments. He believes little in its power of exciting proliferation of bone when employed under antiseptic precautions, which accounts, in his opinion, for several recent failures of this method. In cases, therefore, where resection of the ends of the bone is indicated, he would perform the operation subperiosteally, accurately unite the margins of the divided periosteum, and only use pegs where necessary to maintain the fragments in a position, and at rest.

TRANSPLANTATION OF THE URETHRA TO THE PERINEUM.—In the *Archiv. für Heilkunde*, Heft vi., 1877, a case of cancer of the penis is reported, in which Professor Theirsch amputated that organ. After amputating at about the level of the pubic bone, and checking the hæmorrhage, a catheter was introduced into the urethra; an incision was then made along the raphe of the scrotum to the perineum, thus dividing the scrotum into two equal parts and exposing the urethra, the anterior termination of which was loosened from its attachment in the pubic arch for a distance of about four-fifths of an inch. A small incision was now made in the perineum between the posterior extremity of the scrotal wound and the anus, an inch and a half in front of the latter; the urethra was drawn through this opening, and its walls fastened in the borders of the wound. The operation was made under Lister's spray. Fourteen months after the operation the patient reported himself as perfectly free from all inconveniences. He could project his urine forward at angle of 45 deg. from the vertical line.

EXOPHTHALMIC GOITRE CURED BY GALVANIZATION OF THE SYMPATHETIC.—Dr. Ancona (*Giornale Veneto delle Scienze Mediche*) relates the case of a young girl aged 19, of habitually bad health, who suffered from exophthalmos and goitre. She was emaciated, weak, suffered from diarrhoea and frequent flushings of the face; was irritable and capricious, and unceasingly dyspeptic. Dr. Ancona proposed galvanization of the first cervical ganglia of the sympathetic. The poles of a Stöhrer's battery were applied on each side of the neck, behind the angle of the



jaw, pressing backwards the sterno-mastoid muscles. A current of ten elements was passed for a time varying from three to five minutes. After a few days, the circuit was frequently interrupted. The physiological effects observed were the following: dilatation of the pupil each time the circuit was closed, more marked on the side of the negative pole; slight contractions of the sterno-mastoid; scalorrhœa, with a taste of copper in the mouth; sometimes giddiness. At the end of five months, a hundred electrizations had been applied and very well borne. Arsenical treatment was added. From the beginning of the application of electricity, there was notable amelioration, and at the end of five months the state of the patient was very satisfactory. Her weight had increased by 30 lbs. Her face and mucous membranes resumed their normal color; her eyelids regained their mobility; the thyroid gland diminished in volume; the arterial pulsation ceased to be visible; the impulse of the heart became regular; the pulse fell; menstruation became regular; digestion was restored; and strength returned.

TREATMENT OF VAGINISMUS.—Dr. F. Weber, of St. Petersburg (*Allg. Med. Central Zeitung*, Nos. 1 and 2, 1878, and *Allg. Wien. Med. Zeitung*, January 22, 1878,) thinks that the treatment of vaginismus should depend upon its cause, and should not be the same in all cases. Some local cause should always be sought for, and both local and general treatment are advisable.

The most common causes of the affection, he thinks, are a rigid condition of the hymen, gonorrhœal or catarrhal inflammation of the vagina, and also cicatrices, ulceration, or excoriation of the vulva and outer parts of the vagina.

Organic contraction should be treated by methodical dilatation, at first with compressed sponge, and subsequently with Ferguson's specula, the size of which should be gradually increased. An ointment of belladonna is of great service at the same time. Inflammation of the vagina should be treated with cloths, wet with a solution of sugar of lead, injections with or without opium, and belladonna suppositories. In the later stages, cauterization, with a solution of nitrate of silver, gives excellent results. This is especially serviceable when there are excoriations. Warm hip



baths lessen the irritability of the nerves, and are of service. In addition to the local treatment, tonics and nervines should be used—especially bromide of potassium, iron and valerian. When no local trouble is to be found, and the sufferings of the patient are very severe, division of the nervus pudendus, as recommended by Simpson and Sims, should be practiced. The removal of the hymen itself or the myrtiform caruncle, Weber has never found necessary (though it has been repeatedly done by Sims and others).

ORTHOPÆDIC TREATMENT OF PARALYSIS OF OCULAR MUSCLES.
(*Wien. Med. Wochenschrift*, No. 13, 1878.)

The following method based on the principle of passive movements, is recommended by Michel. (*klin. Monatsbl*, f. Augenheilk, Nov., 1877):

The conjunctiva is seized over the insertion of the paralyzed muscle with an ordinary forceps, and the eye is pulled in the direction of that muscle, so as to imitate and in fact exceed the contraction of the paralyzed muscle. This is repeated two to three times. There is an immediate gain in strength of the muscle, which however, is not permanent. Nevertheless the duration of treatment is shortened and the contracture of the antagonistic muscle is avoided.

TREATMENT OF VARICOSE VEINS.—(*Mittheil. des Wiener Med. Doctoren-Collegiums*, No. 8, 1878.) In one of the numbers of the *Transactions* of the Wiener Medicinshe Doctoren-Collegiums for the latter part of 1877, Dr. Englisch published a paper on the treatment of hernia by injections of alcohol. The favorable results which he obtained from this mode of treatment in hernia induced him, he states, to test its value as a method of radically curing varicose veins. He states that this method for the radical cure of varices has the advantage over all others that it is perfectly harmless.

The method which Dr. Englisch pursues is very simple. The vein and a fold of the skin are caught up between the thumb and finger, and a needle of a Pravaz syringe is inserted in such a way that its point shall be immediately behind the vein. The contents of the syringe, from one to one and a half cubic centimetres

of a fifty per cent. sample of alcohol, are then discharged in the immediate neighborhood of the vein. A small knot forms at the point of injection, and very often there is a momentary appearance of contraction in the veins. On the third day, there will be a considerable infiltration at the point of injection, which differs according to the irritability of different persons. In individuals who were very irritable, there was considerable redness produced, and in four or five cases suppuration ensued. The suppuration was only in the *neighborhood* of the vein, however; the vessel itself remained sound and healthy. The abscesses were as large as a bean, but gave rise to no trouble whatever. In none of Dr. E's cases was there any rise of temperature, though he examined carefully with reference to this point. When the infiltration softened and the swelling subsided, a change in the veins themselves became apparent. They were much smaller and harder at the point of injection and its vicinity, and felt like hard cords; and at the sides of these cords very well-marked grooves could be felt.

In a few of these cases, a single injection sufficed to cause a complete cure; but in the majority of cases, Dr. E. found it necessary to make three or four, and in one person he made as many as ten injections in both limbs.

The results are most favorable when the affected veins are spread out in the form of a plexus, and the cases are most difficult to treat when the varicose vessels give off a number of branches. The subjective troubles in consequence of the operation are very slight, and only require rest of the limbs.

The duration of treatment varies. Even in those cases where a complete cure cannot be obtained, the efficiency of the palliative means of treatment will be rendered much greater.

The mode of treatment is perfectly harmless, and if it does not succeed, the other procedures may then be resorted to.

ANTISEPTIC TREATMENT OF BURNS.—Bush. (*Centralbl. f. Chir.*, No. 14, 1878.)

At the last congress of German surgeons, W. Bush detailed his treatment of burns with Lister's antiseptic method. The burn is cleansed with a solution of carbolic acid; during the time of bandaging carbolic acid spray is constantly kept up. The

wounds are thereupon covered with an ointment of boric acid spread on linen. Upon this an ordinary Lister's dressing is placed. If the burns are not very extensive, the bandage can remain in place for a considerable time. The growth of granulations is thus checked; and but little pus is produced while the cicatrization proceeds rapidly. The subsequent cicatrix is smooth and elastic. (Lister himself uses a similar method.)

DERMATOLOGY.

TREATMENT OF PITYRIASIS CAPITIS AND OF ALOPECIA.—Malassez (*Journal de Médecine*, Dec., 1877).

The facts placed beyond doubt by Malassez in regard to this affection, are, first the constant existence and very great abundance of a certain species of fungus, and second, the absence of this fungus, or at least, its great rarity where there is no pityriasis, or where it no longer exists, as well as in other squamous affections, such as eczema, psoriasis, and ichthyosis. This fungus consists solely of spores. They are found in the corneous layer of the epidermis, where they form horizontal layers or veritable heaps between the diverse layers of this horny portion. At the same time a vesicular alteration of the epidermic cells, already described by Ranvier, is proven.

M. Malassez concludes from these facts, that pityriasis results from the invasion of the hairy scalp by this fungus. 1st. Arriving upon a soil favorable to their development (arthritic subjects) the spores multiply, infiltrate themselves into the corneous layer of the epidermis, and there separate into layers. 2d. This invasion produces in the tissues an irritation, a reaction which manifests itself by the vesicular state of the epidermic cells, a new cause of desquamation.

From this double cause, then, external and internal, and from the double mechanism, direct and indirect action, result important practical conclusions as regards treatment. This should be local and general. The local treatment alone will occupy us at present; it should be essentially antiparasitic, and it is necessary in applying it, not to lose sight of the nature and seat of the

parasite. Being a fungus, the parasite may be destroyed by such agents as turpeth mineral, sublimate, etc. This parasite, being situated in the corneous layers of the epidermic layers which are all impregnated with fatty matters, it is necessary to make the parasiticide penetrate them. The following treatment carried out carefully succeeds perfectly.

1st. Every second day combing with a fine comb, and soaping the head with common soap. This removes mechanically the scurf, and removes the fatty matters from the hair, and opens up the retreats of the fungus to the action of the parasiticide. With long-haired persons this is not practicable. Men and children should have their hair cut closely. As we cannot usually ask women and young girls to make a sacrifice of their long hair, frictions with commercial alcohol should take the place of the soaping.

2d. When the hair is well dried, friction should be made to the scalp with an ointment composed of equal parts of cocoa, butter, castor oil, and oil of sweet almonds, containing one part of turpeth mineral to fifteen of the excipient. Only small quantities should be made at a time, as it soon becomes rancid. In place of this, benzoated lard may be employed as the excipient, though the author prefers the vegetable fats mentioned. Great care should be used in applying the ointment so as to reach every spot of the scalp, and it should be well rubbed in. Large quantities should be used, and frictions made every day. After a week or two of treatment, combing and cleansing of the scalp may be made less frequently, say twice a week, and later but once a week. The ointment may also be applied but two or three times a week, though it is well to continue its use for some time. Amelioration comes soon, complete cure less so, and requires considerable persistence in treatment.

For pityriasis of the beard the ointment would be inconvenient, and may be replaced by alcoholic solutions of corrosive sublimate one part to 500 or 1,000, according to circumstances. A small brush (a soft tooth brush is useful) is saturated with this solution, and rubbed into a small portion of the affected skin at a time, then wet again and applied to a new spot. After all is done, wait a few moments, and then wipe off any excess of liquid on the beard.

The combs and brushes used, should be frequently cleaned with potash, or they will become new sources of contagion.

The alopecia, which succeeds pityriasis, results from the formation of an epidermic plug in the upper portion of the hair follicle, this being an obstacle to the normal exit of the hair. Irritation follows in the deeper portion of the follicle, then hypertrophy of the walls, and finally, obliteration of the hair follicle. After a time, only a fibrous cord is left in its place. Treatment at that stage is of course useless. But during the developmental stage one may hope to arrest the disease, and even to make the hairs more vigorous :

1st. By unplugging the orifices of the hair follicles; 2d. By curing the pityriasis, which affects the superficial regions; 3d. By counteracting the irritation in the deeper parts. For the last condition we may add to the turpeth mineral ointment, from two to four parts of tincture of cantharidis to thirty of the ointment. As the required effect is produced slowly, the cantharidis should be continued long after the pityriasis has disappeared. A weaker ointment should then be used without the turpeth mineral, or but very little of it, say half a part to one part of the mineral and thirty of the excipient, the cantharidis remaining the same. Gallic acid ointment is also useful in these cases. The patient should be informed that friction will at first cause an increased fall of the hair, but it is only temporary, and the diseased and loosened hairs will be replaced by more vigorous ones.

PITYRIASIS PILARIS.—*Journal de Médecine*, Dec., 1878.

M. Richard, in a thesis just published, describes this rare and interesting affection. The principal elements of this very remarkable work were drawn from the service of M. Besnier, whose interne Richard was, and he proves that this affection attacks the entire epidermic system, following it into its ramifications to the bottom of the sebaceous glands and hair follicles, affecting the nails, the hairs, and perhaps even the sudoriparous glands.

Pityriasis pilaris, whatever may be its mode of origin, is characterized by the presence of large red patches covered with scales, patches often large enough to cover the entire trunk without the slightest interval of sound skin. If the patient be examined

closely then, there will be seen on other parts of the body small eminences traversed by a hair, and in the palms of the hands, and in certain cases, even the soles of the feet, there are seen large scales; the nails are hypertrophied, and the face is covered with a sebaceous coating. All these lesions are symmetrical. These large red surfaces are a little rough to the touch, but become smooth when freed of their scales, which is easily done. This surface presents neither crusts nor vesicles, nor the slightest moisture. The trunk is most often the seat of this desquamation, and it never descends lower than the thighs. Besides, upon the hairy regions, there is observed another lesion which characterizes pityriasis pilaris; it is the epidermic cones. These pathological productions occupy the regions covered with hairs, except the scalp, the beard, and the pubis. They are especially distinct on backs of the fingers and extend from them to the forearm. These epidermic eminences exist exclusively around the hairs. They consist of two portions, the one intradermic, the part toward the base of the follicle; the other, extradermic, with truncated summit, which looks toward the free extremity of the hair. They are sometimes traversed by a hair, surrounding it like a ring on the finger. Sometimes, on the contrary, they cover the hair, imprisoning it and preventing its escape. If then the little eminence be picked off, the hair set at liberty unrolls itself and straightens. These little eminences give to the skin the appearance of "goose-flesh," and to the hand the sensation of a rasp. These cones thus constituted, do not occupy the regions covered by the pityriasic desquamation. They occupy the hairy regions of the hand. They stop at the sides, and in the palm is often seen a lesion of a different kind; it consists in the presence of large epidermic scales which give a horny appearance to the region. The nails themselves are sometimes hypertrophied. At the same time, the hairs are generally diseased and fall in part. To these local phenomena there are few general phenomena to add. These consist solely in certain troubles of sensibility, and sometimes itching. The affection is essentially a chronic one.

These are very briefly the principal characters of pityriasis pilaris which permit it to be distinguished from ichthyosis pilaris which is nearly always congenital, from psoriasis, and from pity

riasis rubra which differs from it, especially in the absence of the epidermic cones. Unfortunately treatment seems to be of little use. M. Richard advises topical applications of glycerole of starch, to which he adds ten per cent. of cherry laurel water to mask the odor of the glycerine and to diminish itching. At the same time alkaline and starch baths may be tried, and Vichy water, Bazin's alkaline syrup, or the arsenate of sodium.

QUINIA-EXANTHEMA.—Kœbner (*Vierteljahresschrift f. Dermatolog. und Syphil.* 1877, No. 4).

In May of last year, we gave the notes of a case of a scarlatina-like eruption following the administration of quinine. Dr. K. observed two similar cases of idiosyncrasy. The symptoms are so exactly like those of the case reported last May, that we need not repeat the full history. Suffice it to say that in the first case reported by K., the exanthema first broke out in June, 1876, after 0.225 grammes of quinine had been taken; it lasted a whole week, and the desquamation continued six weeks. In September of the same year, another eruption after 0.15 quinine; desquamation beginning on the fifth day. In November, a third attack after 0.1 quinine; desquamation began on the third day and lasted two weeks. It will be noticed that the duration of the exanthema bore a decided relation to the dose of quinine taken.

THERAPEUTICS.

JABORANDI.—*Pilocarpus Pinnatus* is a drug which invites further study. After the researches of Dr. Ringer and Mr. Martindale, an English pharmacist, there can be no doubt of the powerful diaphoretic and sialogogue properties possessed by it. The secret of its mighty diaphoretic and sialogogue strength undoubtedly exists in its alkaloid, recently discovered by Mr. Gerard, and the most efficient salt of this alkaloid is generally believed to be the nitrate; its price, however, effectually excludes it at present from general use. The price asked for it in New York is about \$25 per drachm; but as better and easier methods of eliminating it are discovered, the price will correspondingly decline.

Half a grain of the nitrate is said to produce the effect of a full dose of jaborandi. One drop of the solution of the nitrate (1 grain to 1 ounce) put into the eye will contract the pupil to the size of a pin's head. From a report of some interesting physiological experiments performed on a dog and a rabbit at University College, London, we find that $\frac{1}{10}$ of a grain of the alkaloid produced profuse salivation, which was readily checked by administering $\frac{1}{200}$ of a grain of sulphate of atropine. Mr. Gerard thinks that the best pharmaceutical preparation is the fluid extract. In this city jaborandi has been used with success in one drachm doses, infused in a cup of boiling water, and the whole drunk (without being strained). In a short while it produced an excessive flow of saliva followed by profuse diaphoresis. No nausea followed in the two cases reported by the physician for whom the writer prepared the remedy.

TREATMENT OF BOILS BY ARNICA.—Dr. N. Planat has adopted (*Journal de Thérapeutique*) the use of arnica in all cases of superficial acute inflammation, as boils, angina, erysipelas, etc. He states that arnica cuts short all furuncular eruptions, except those accompanied by diabetes, with remarkable promptness. For external use, he employs a mixture of extract of fresh arnica flowers, ten parts; honey, twenty parts. If this be too liquid, he adds lycopodium. The mixture is applied to the inflamed part and covered with oiled silk. Equally good results will be obtained in the same cases by the internal administration of tincture of arnica in doses of twenty-five to thirty drops every two hours. M. Planat adds that the extinction of the furuncular eruption is so rapid that it seems impossible to deny a specific elective action.

VASELINE AS EXCIPIENT. (*Journal de Médecine et de Chirurgie pratique*.)—Vaseline is an excellent excipient for: potassium iodide, tannin, chloral hydrate, chloroform, camphor, morphine, atropine, iodine and phosphorus. The vaseline does not become rancid and the alkaloids do not decompose.

As it contains no fat, it cannot be used where chemical combination is desired to form oleates.

Medical News.

THE *Metric System of Weights and Measures* is now officially introduced into the United States Marine Hospital service. As it is quite likely to be adopted, sooner or later, by the profession throughout the country, the following very simple rules and suggestions contained in circular No. 3, series 1878, of the Superintendent Surgeon-General, U. S. M. H. S., for the ready conversion of the present weights and measures into their respective equivalent in metric terms may be of some interest to our readers.

RULES FOR CONVERTING TERMS OF THE UNITED STATES APOTHECARIES' WEIGHTS AND MEASURES INTO THEIR RESPECTIVE EQUIVALENTS IN TERMS OF THE METRIC SYSTEM.

1.—To express quantities by weight of the Apothecaries' system in metric terms, or to write medical prescriptions in metric weights.

Rule A.—Reduce each quantity to grains; then divide the number by 10 (or move the decimal point one place to the left), and from the quotient subtract one-third. The remainder is in each case the number of grammes representing (nearly) the same quantity. Or,

Rule B.—Reduce each quantity to drachms, and multiply the number by 4. The product is in each case the number of grammes representing (nearly) the same quantity. Or,

Rule C.—Reduce each quantity to ounces, and multiply the number by 32. The product is in each case the number of grammes representing (nearly) the same quantity.

2.—To express quantities by measure of the Apothecaries' system in metric terms, or to write medical prescriptions in metric cubic measures.

Rule D.—Reduce each quantity to minims, then divide the number by 10 (or move the decimal point one place to the left),

and from the quotient subtract one-third. The remainder is in each case the number of cubic centimeters representing (nearly) the same quantity. Or,

Rule E.—Reduce each quantity to fluid drachms, and multiply the number by 4. The product is in each case the number of cubic centimeters representing (nearly) the same quantity. Or,

Rule F.—Reduce each quantity to fluid ounces, and multiply the number by 32. The product is in each case the number of cubic centimeters representing (nearly) the same quantity.

The following prescription—

R_y : Potassii Bromidi, ʒi.

Elix. Aurantii, fl. ʒviij.

Mix—

would, in metric terms, be written :

R_y : Potassii Bromidi, 32 Gm.

Elix. Aurantii, 250 C. C.

Mix.

Or, in more finished decimal manner :

R_y : Potassii Bromidi, 30 Gm.

Elix. Aurantii, 250 C. C.

Mix.

The exact equivalents of the grain, drachm, and ounce (troy), in grammes; of the gramme in grains; of the minim, fluid drachm, and fluid ounce in cubic centimeters, and of the cubic centimeter in minims are as follows :

1 grain, troy, is equal to 0.065— grammes.

1 drachm, troy, is equal to 3.888— grammes.

1 ounce, troy, is equal to 31.103 + grammes.

1 gramme is equal to 15.43234874 grains, troy.—*Prof. Miller.*

(1 avoirdupois pound is equal to 453.592 + grammes.)

(1 avoirdupois ounce is equal to 28.350 + grammes.)

1 minim is equal to 0.062— cubic centimeters.

1 fluid drachm is equal to 3.697— cubic centimeters.

1 fluid ounce is equal to 29.573— cubic centimeters.

In preparing prescriptions the following approximate equivalents may be substituted : 1 grain, 0.06 Gm.; 1 drachm, 4 Gm.; 1 ounce, 30 Gm.; 1 minim, 0.06 C. C.; 1 fluid drachm, 4 C. C.; 1 fluid ounce, 30 C. C.—

Items.

HOMŒOPATHIC "SOUL MEDICINE."

"In allopathy the soul is nowhere; in homœopathy the state of the soul or mind is a *sine quâ non*.

"Allopathy has no means of affecting the soul or mind, except those of a moral kind; whereas homœopathic medicines act upon the spirit or soul of man, and through it and by means of it, and with a certainty which is as remarkable as it is true.

"By way of illustrating the power of homœopathic medicines over the mind and its affections, I shall give the following example: A favorite cat of my own had kittens; all were drowned but two; then one was given away, and ultimately the remaining one was given to a friend. The mother of the kittens became *inconsolable*, and went all over the house, mourning her loss in unmistakable *tones of grief*, for five days and nights, making night hideous with her cries. One globule of *Ignatia* cured her in half an hour, as she never cried again."—(Skinner's "Diseases of Women," p. 27; Porter & Coates, Phila. *Phil. Med. Times*, June 8, 1878.)

THE following named physicians constitute the newly appointed Medical Board of the Cook County Hospital: Drs. McWilliams, Lee, Jacobson, Hessert, Guerin, Baxter, Fenger, Ross, Gunn, Parkes, Quine, Bevan and Isham.

IF the end of the uterus appears as hard as the end of your nose, pregnancy should exist. If it appears as soft as your lips, the uterus probably contains a fœtus.—W. GOODELL.

Obituary Record.

C. A. Wunderlich.—Sept. 25, 1877, æt. 62. Dr. Wunderlich was professor in the University of Leipzig, and best known by his work on "Temperature in Disease."

M. Elie Gintrac.—Dec., 1877, æt. 86. The most important of his works is a "Theoretical and Clinical Course on Pathology and Medical Therapeutics."

Jean Bapt. Philip Barth.—On the 3rd Dec., 1877, at Paris. æt. 72. His principal work was on auscultation and percussion, written in conjunction with M. Henri Pioger.

Dr. Wm. Stokes, the eminent Irish physician died in Dublin, Jan. 7, 1878, æt. 74.

Ed. H. Clarke, M. D.—In Boston, Nov. 30, 1877, æt. 57. Dr. Clarke was Professor of Materia Medica in Harvard College, and held an enviable position in Boston as consulting physician.

Dr. James Blundell.—At London, Jan. 15, 1878, æt. 87. Dr. Blundell was formerly Professor of Obstetrics at Guy's Hospital.

Fleetwood Churchill, M. D.—In Ireland, Jan. 31, 1878, æt. 70. Dr. Churchill was well known by his works, "Theory and Practice of Midwifery," "Diseases of Women, and "Diseases of Children."

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, July 8 and 22.

Chicago Society of Physicians and Surgeons—Mondays, July 1 and 15.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman ; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—2 p. m. Gynecological, by Dr. Bridge. 3 p. m. Ophthalmological, by Dr. Montgomery.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine ; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham ; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch ; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.